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Draft ER RSOP Notification and Closeout Report IHSS Group 700-4

December 2003

ADMIN RECORD

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ACRONYMS

AL	action level
AOC	Area of Concern
ASD	Analytical Services Division
AST	above-ground storage tank
bgs	below ground surface
BMP	best management practice
CAD/ROD	Corrective Action Decision/Record of Decision
CCA	Configuration Control Authority
CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CHWA	Colorado Hazardous Waste Act
CMS/FS	Corrective Measures Study/Feasibility Study
COC	contaminant of concern
CRA	Comprehensive Risk Assessment
cu ft	cubic feet
D&D	Decontamination and Decommissioning
DL	detection limit
DOE	U S Department of Energy
DOP	Decommissioning Operations Plan
DQA	Data Quality Assessment
DQO	data quality objective
EPA	U S Environmental Protection Agency
ER	Environmental Restoration
ER RSOP	Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation
ft	feet
FY	Fiscal Year
HPGe	high-purity germanium
HRR	Historical Release Report
IA	Industrial Area
IASAP	Industrial Area Sampling and Analysis Plan
IHSS	Individual Hazardous Substance Site
K-H	Kaiser-Hill Company, L L C
LCS	laboratory control sample
ug/kg	micrograms per kilogram
ug/L	micrograms per liter
mg/kg	milligrams per kilogram
MS	matrix spike
MSD	matrix spike duplicate
nCi/g	nanocurie per gram
NFAA	No Further Accelerated Action
NLR	No Longer Representative
OPWL	Original Process Waste Lines
OU	Operable Unit

PAC	Potential Area of Concern
PARCCS	precision, accuracy, representativeness, completeness, comparability and sensitivity
PCB	Polychlorinated biphenyl
pCi/g	picocuries per gram
PCOC	potential contaminant of concern
POC	Point of Compliance
POE	Point of Evaluation
QC	quality control
RADMS	Remedial Action Decision Management System
RAO	remedial action objective
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFI/RI	RCRA Facility Investigation/Remedial Investigation
RIN	report identification number
RL	reporting limit
RPD	relative percent difference
RSOP	RFCA Standard Operating Protocol
SAP	Sampling and Analysis Plan
SBD	sample beginning depth
SED	sample end depth
Site	Rocky Flats Environmental Technology Site
SOR	sum of ratios
SSRS	Subsurface Soil Risk Screen
SVOC	semivolatile organic compound
SWD	Soil Water Database
UBC	under building contamination
UCL	upper confidence limit
VOC	volatile organic compound
V&V	verification and validation
WRW	wildlife refuge worker
XRF	x-ray fluorescence

1.0 INTRODUCTION

This Environmental Restoration (ER) Rocky Flats Cleanup Agreement (RFCA) Standard Operating Protocol for Routine Soil Remediation (ER RSOP) (DOE 2003a) Notification and Closeout Report for Individual Hazardous Substance Site (IHSS) Group 700-4 at the Rocky Flats Environmental Technology Site (RFETS or Site) in Golden, Colorado includes the following

- A summary of characterization data collection activities conducted at IHSS Group 700-4,
- Notification to remediate soil beneath two tanks in IHSS Group 700-4, and
- A description of accelerated action activities at IHSS Group 700-4

IHSS Group 700-4 consists of the following IHSSs, Under Building Contamination (UBC) sites, and Potential Areas of Concern (PACs) listed in Table 1

Table 1
IHSS Group 700-4

IHSS/PAC/UBC Site	Description
UBC 771	Plutonium and Americium Recovery Operations
UBC 774	Liquid Process Waste Treatment
700-150 2(N)	Radioactive Site West of Buildings 771/776
700-163 1	Radioactive Site 700 North of Building 774 (Area 3) Wash Area
700-163 2	Radioactive Site 700 Area 3 Americium (Am) Slab
700-215	Abandoned Sump Near Building 774 Unit 55 13 T-40
700-139(N)(b)	Hydroxide Tank, KOH, NaOH Condensate
700-124 1	30,000-Gallon Tank (68)
700-124 2	14,000-Gallon Tank (66)
700-124 3	14,000-Gallon Tank (67)
700-125	Holding Tank
700-126 1	Westernmost Out-of-Service Process Waste Tank
700-126 2	Easternmost Out-of-Service Process Waste Tank
000-121	Tank 8 – Original Process Waste Line (OPWL) - East and West Process Tanks
000-121	Tank 12 - OPWL - Two Abandoned 20,000-Gallon Underground Concrete Tanks
000-121	Tank 13 - OPWL - Abandoned Sump - 600 Gallons
000-121	Tank 14 - OPWL - 30,000-Gallon Concrete Underground Storage Tank (68)
000-121	Tank 15 - OPWL - Two 7,500-Gallon Process Waste Tanks (34W, 34E)
000-121	Tank 16 - OPWL - Two 14,000-Gallon Concrete Underground Storage Tanks (66, 67)
000-121	Tank 17 - OPWL - Four Concrete Process Waste Tanks (30, 31, 32, 33)
000-121	Tank 36 - OPWL - Steel Carbon Tetrachloride Sump
000-121	Tank 37 - OPWL - Steel-Lined Concrete Sump
700-139 2	Caustic/Acid Spills Hydrofluoric Tank
700-146 1	Concrete Process 7,500-Gallon Waste Tank (31)
700-146 2	Concrete Process 7,500-Gallon Waste Tank (32)
700-146 3	Concrete Process 7,500-Gallon Waste Tank (34W)
700-146 4	Concrete Process 7,500-Gallon Waste Tank (34E)
700-146 5	Concrete Process 7,500-Gallon Waste Tank (30)
700-146 6	Concrete Process 7,500-Gallon Waste Tank (33)
700-150 1	Radioactive Site North of Building 771
700-150 3	Radioactive Site Between Buildings 771 and 774

The location of IHSS Group 700-4 is shown on Figure 1, and the UBCs, IHSSs, and PACs are shown on Figure 2

1.1 Project History and Report Organization

IHSS Group 700-4 accelerated action project was conducted in collaboration with Decontamination and Decommissioning (D&D) staff Characterization data were collected to determine if remediation was necessary at IHSS Group 700-4 and was scheduled so that the data for UBCs 771 and 774 was available to D&D staff for their decision-making process

Characterization data were collected in accordance with the Industrial Area Sampling and Analysis Plan (IASAP) Addendum #IA-03-01 (DOE 2001a) Characterization sampling locations and deviations from the planned sampling locations as described in IASAP Addendum #IA-03-01 (DOE 2002) are presented in Table 2 These data are summarized in tables and maps in Section 2 and on Tables 3 through 7 and Figures 3 through 7 These data were evaluated (Tables 8 through 10) to determine if a soil removal action was warranted The need for a soil removal action is discussed in Section 2 1 4 and as part of the Subsurface Soil Risk Screen (SSRS) in Section 6

Characterization data was discussed with the regulatory agencies through the consultative process Colorado Department of Public Health and Environment (CDPHE) concurred that based on the presented characterization data a soil removal action was not warranted (Appendix A – Correspondence)

The original D&D plan did not include removal of Tanks 14 (Tank 68) and 16 (Tanks 66 and 67) However, the decision was re-evaluated and tank removal initiated in October, 2003 in accordance with the Building 771 Decommissioning Operations Plan (DOP) (DOE, 2003b) Soil characterization samples were collected after the tanks were removed These data are summarized in Section 4, Table 11 and Figure 9 Because a soil removal decision was made based on these data, an ER RSOP Notification was required However, in order to expedite the soil removal action, CDPHE agreed that the notification could be included with the Closeout Report and it is included as Section 3

The soil removal action was completed in November, 2003 when confirmation sampling data indicated that RFCA requirements were met These data and information are summarized in Section 4 and on Tables 12 and 13 and Figure 10

Additionally, other information required by the ER RSOP including disposition of waste (Section 4 1), information on residual contamination (Section 5 0), the SSRS (Section 6 0), and Stewardship Evaluation (Section 7 0), are also included in this report

Approval of this Closeout Report constitutes regulatory agency approval of the ER RSOP Notification and concurrence of this IHSS Group as a No Further Accelerated Action (NFAA) This information and NFAA determination will be documented in the FY04 Historical Release Report (HRR)

2 0 IHSS GROUP 700-4 ACTIVITIES

IHSS Group 700-4 activities are based on historical knowledge and previously collected analytical data (DOE 1992-2002), and recently collected data which was planned and

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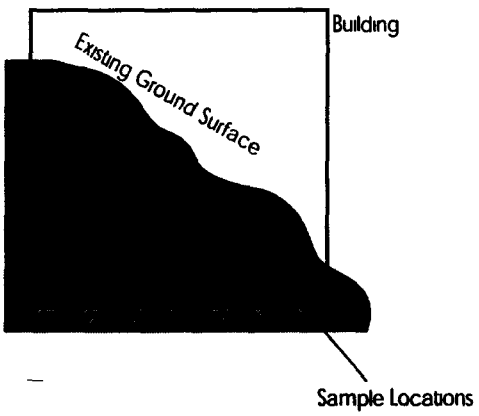
executed in accordance with the IASAP (DOE 2001a) and IASAP Addendum #IA-03-01 (DOE 2002)

2.1 Site Characterization

Characterization sampling locations and deviations from the planned sampling locations as described in IASAP Addendum #IA-03-01 (DOE 2002) are presented in Table 2 The location of these characterization samples and analytical results greater than background means plus two standard deviations or DLs are shown on Figures 3 through 7 Analytical results greater than background means plus two standard deviations or detection limits (DLs) are presented in Table 3 Results greater than RFCA Action Levels (ALs) are shown in bold in Table 3

RFCA Wildlife Refuge Worker (WRW) and ecological receptor AL exceedances are listed in Table 4 and radionuclide sums of ratios (SORs) are listed in Table 5 All analytical data are summarized in Tables 6 and 7 All project real and quality control data, as of November 25, 2003 are included on the enclosed compact disc

Many samples were collected from beneath Buildings 771 and 774 Both buildings are built into a hillside as conceptually illustrated below



Because consistent database designations are required, the sample depth for UBC samples is designated from the beneath the building floor on figures and in tables Actual depth is noted in the text when the depth affects project decisions Sample depths at locations outside of building footprints are actual

Analytical data collected from 16 sampling locations during preliminary characterization (DOE 2001b) of UBC 771 and UBC 774 are shown on Figure 8

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Figure 3:

UBC 771 Results Greater Than Background Means Plus Two Standard Deviations, or Detection Limit

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December 1, 2003

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Figure 4:

UBC 774 Results Greater Than Background Means Plus Two Standard Deviations, or Method Detection Limits

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Figure 5:

IHSS 139.1, 150.3, and 163.1 Results Greater Than Background Means Plus Two Standard Deviations, or Method Detection Limits

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Figure 6:

IHSS 150.1 and 163.2 Results Greater Than Background Means Plus Two Standard Deviations, or Method Detection Limits

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Figure 7:

IHSS 139.2 and150.2 Results Greater Than Background Means Plus Two Standard Deviations, or Method Detection Limits

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Table 2
IHSS Group 700-4 Characterization Sampling Specifications and Deviations

IHSS/PAC/UBC Site	Location Code	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Media	Depth Interval	Analyte	Comment
UBC 771 Plutonium and Americium Recovery Operations (All depths start below building slab)	CE47-000	2083724 010	750861 638	2083724 010	750861 638	Subsurface Soil	0 0 5'	Radionuclides Metals SVOCs VOCs	No significant difference Depth interval measured from beneath building
	CE47 001	2083652 650	750871 216	2083652 650	750868 318	Subsurface Soil	0 0 5'	Radionuclides Metals SVOCs VOCs	Relocated because of structural interference in the building floor Depth interval measured from beneath building
	CE47 002	2083696 625	750928 227	2083696 625	750928 227	Subsurface Soil	0 0 5'	Radionuclides Metals SVOCs VOCs	No significant difference Depth interval measured from beneath building
	CE48-000	2083669 240	750994 815	2083669 240	751008 889	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	Relocated because of column footing Depth interval measured from beneath building
	CE48-001	2083597 880	751004 394	2083593 326	751017 226	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	Relocated because of structural interference in the building floor Depth interval measured from beneath building
	CE48-002	2083713 215	751051 826	2083713 215	751051 826	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	No significant difference Depth interval measured from beneath building
	CE48-003	2083641 855	751061 404	2083651 790	751061 817	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	Relocated out of men's restroom Depth interval measured from beneath building
	CF47 000	2083795 370	750852 059	2083783 752	750852 612	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	Relocated because of structural interference in the building floor Depth interval measured from beneath building
	CF47 001	2083910 705	750899 491	2083915 130	750875 703	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	Relocated out of Corridor G Building management did not allow drilling in corridors Depth interval measured from beneath building

IHSS/PAC/UBC Site	Location Code	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Media	Depth Interval	Analyte	Comment
	CF47 002	2083839 345	750909 070	2083839 345	750909 070	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	No significant difference Depth interval measured from beneath building
	CF47-003	2083767 985	750918 648	2083767 985	750918 648	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	No significant difference Depth interval measured from beneath building
	CF48-000	2083883 320	750966 080	2083885 803	750966 080	Subsurface Soil	0 0 5'	Radionuclides Metals SVOCs VOCs	Relocated because of structural interference in the building floor
	CF48-001A	2083811 960	750975 659			Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	Location Code changed to CF48-021 because of depth change
	CF48-001B	2083811 960	750975 659			Subsurface Soil	0 5-2 5'	Radionuclides	Location Code changed to CF48-021 because of depth change
	CF48 001C	2083811 960	750975 659			Subsurface Soil	2 5-4 5'	Radionuclides	Interval C of this sample location not sampled
	CF48-002A	2083740 600	750985 237			Subsurface Soil	0 0 5'	Radionuclides Metals SVOCs VOCs	Location Code changed to CF48-022 because of depth change
	CF48-002B	2083740 600	750985 237			Subsurface Soil	0 5-2 5'	Radionuclides	Location Code changed to CF48-022 because of depth change
	CF48-002C	2083740 600	750985 237			Subsurface Soil	2 5-4 5'	Radionuclides	Interval "C" of this sample location not sampled
	CF48-003	2083855 935	751032 669	2083840 61832	751032 66900	Subsurface Soil	0 0 5'	Radionuclides Metals SVOCs VOCs	Relocated because of structural interference in the building floor Depth interval measured from beneath building
	CF48-004	2083784 575	751042 247	2083792 44032	751042 24700	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	No significant difference Depth interval measured from beneath building
	CF48-005	2083899 910	751089 679	2083899 91000	751089 67900	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	No significant difference Depth interval measured from beneath building

IHSS/PAC/UBC Site	Location Code	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Media	Depth Interval	Analyte	Comment
	CF48-006	2083828 550	751099 258	2083828 55000	751099 25800	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	No significant difference Depth interval measured from beneath building
	CF48-007	2083757 190	751108 836	2083762 57154	751118 35718	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	Relocated out of corridor C Building management did not allow drilling in corridors Depth interval measured from beneath building
	CF48-008	2083872 525	751156 268	2083872 52500	751156 26800		0-0 5'	Radionuclides Metals SVOCs VOCs	No significant difference Depth interval measured from beneath building
	CF48 022			2083740 600	750985 237	Subsurface Soil	1-1 5'	Radionuclides Metals SVOCs VOCs	Replaced CF48-002 Depth interval measured from beneath building
	CF48 024			2083769 687	751003 428	Subsurface Soil	1-1 5'	Radionuclides Metals SVOCs VOCs	Replaced CF48-011 Depth interval measured from beneath building
	CG48 002	2083971 270	751080 101			Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	Location deleted because of close proximity to CG48-013
UBC 774 Liquid Process Waste Treatment (All depths start below building slab)	CG48 000	2084113 990	751060 944	2084113 99000	751060 94400	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	No significant difference Depth interval measured from beneath building
	CG48-001	2084042 630	751070 523	2084043 90467	751074 34701	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	Relocated because of structural interference in the building floor Depth interval measured from beneath building
	CH48-001	2084185 350	751051 366			Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	Location deleted because of close proximity to CG48-005
	CG48-020	2084068 182	751120 168	2084068 182	751120 168	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	No significant difference Depth interval measured from beneath building
	CG48-021	2084071 658	751050 640			Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	Location deleted because OPWL was overhead, not in subsurface

IHSS/PAC/UBC Site	Location Code	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Media	Depth Interval	Analyte	Comment
Building Sumps	CE47-003	2083722 762	750923 295	2083722 34804	750948 13287	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs VOCs	Proposed building sump locations moved to actual sump locations Depth interval measured from beneath building/sump
(All depths start below building slab)	CE47 004	2083675 837	750918 963	2083702 74469	750913 99543	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs	Proposed building sump locations moved to actual sump locations Depth interval measured from beneath building/sump
	CE47 005	2083640 462	750937 011			Subsurface Soil	0 0 5'	Radionuclides Metals SVOCs	Not collected because sump did not exist at this location
	CE47 006	2083669 339	750854 712			Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs	Not collected because sump did not exist at this location
	CE47 007	2083638 297	750868 428			Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs	Not collected because sump did not exist at this location
	CE47-008	2083677 281	750866 984			Subsurface Soil	0 0 5'	Radionuclides Metals SVOCs	Not collected because sump did not exist at this location
	CE47-009	2083639 019	750921 129	2083643 572	750918 645	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs	Proposed building sump locations moved to actual sump locations Depth interval measured from beneath building/sump
	CE47-010	2083638 297	750947 840			Subsurface Soil	0 0 5'	Radionuclides Metals SVOCs	Not collected because sump did not exist at this location
	CE48 006	2083658 511	750966 610	2083654 785	750961 642	Subsurface Soil	0 0 8'	Radionuclides Metals SVOCs s	Proposed building sump locations moved to actual sump locations Depth interval measured from beneath building/sump
	CE48-007	2083683 056	750986 102	2083695 474	750988 585	Subsurface Soil	0–0 5'	Radionuclides Metals SVOCs VOCs	Proposed building sump locations moved to actual sump locations Depth interval from beneath building/sump
	CF47-004	2083919 125	750890 086			Subsurface Soil	NA	Radionuclides Metals SVOCs VOCs	Not collected, active sump
	CF47-005	2083781 238	750890 086	2083793 656	750895 053	Subsurface Soil	0-0 8'	Radionuclides Metals SVOCs s	Proposed building sump locations moved to actual sump locations Depth interval measured from beneath building/sump

IHSS/PAC/UBC Site	Location Code	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Media	Depth Interval	Analyte	Comment
	CF48 009	2083764 633	751092 947	2083899 630	751022 091	Subsurface Soil	0 0 5'	Radionuclides Metals SVOCs VOCs	Proposed building sump locations moved to actual sump locations Depth interval measured from beneath building/sump
	CF48 010	2083755 248	751037 359			Subsurface Soil	NA	Radionuclides Metals SVOCs VOCs	Not collected, active sump
	CF48-011	2083769 687	751003 428	2083763 47753	751009 22350	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs	Location Code changed to CF48-024 Depth interval measured from beneath building/sump
	CF48 011B	2083769 687	751003 428			Subsurface Soil	05 2 5'	Radionuclides	Location Code changed to CF48-024 because of depth "B" interval not sampled Depth interval measured from beneath building/sump
	CF48-011C	2083769 687	751003 428			Subsurface Soil	2 5-4 5'	Radionuclides	Location Code changed to CF48-024 because of depth Depth interval measured from beneath building/sump
	CF48-012A	2083754 526	750974 551	2083746 24671	750974 55100	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs	Proposed building sump locations moved to actual sump locations Depth interval measured from beneath building/sump
	CF48 012B	2083754 526	750974 551	2083746 24671	750974 55100	Subsurface Soil	05-2 5'	Radionuclides	Proposed building sump locations moved to actual sump locations Depth interval measured from beneath building/sump
	CF48 012C	2083754 526	750974 551	2083746 24671	750974 55100	Subsurface Soil	2 5-4 5'	Radionuclides VOCs	Proposed building sump locations moved to actual sump locations Depth interval measured from beneath building/sump
	CF48-013	2083748 751	750966 610	2083776 486	750968 679	Subsurface Soil	0 0 5'	Radionuclides Metals SVOCs	Proposed building sump locations moved to actual sump locations
	CF48-023	2083906 620	751003 466			Subsurface Soil	2 5-4 5'	Radionuclides Metals SVOCs VOCs	Not collected because sump does not exist at this location
	CE48-026			2083724 006	751010 236	Subsurface Soil	0 0 5'	Radionuclides Metals VOCs	Additional Sump Location Depth interval measured from beneath building/sump

IHSS/PAC/UBC Site	Location Code	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Media	Depth Interval	Analyte	Comment
	CE48-025			2083684 818	750993 441	Subsurface Soil	0-0 5'	Radionuclides Metals VOCs	Additional Sump Location Depth interval measured from beneath building/sump
Tank 8 OPWL East and West Process Tanks	CE49-008	2083704 813	751196 300	2083704 813	751196 300	Subsurface Soil	0-0 5'	Radionuclides Metals SVOCs Nitrate PCBs	No significant difference Depth interval measured from beneath building
	CE49-008	2083704 813	751196 300	2083704 813	751196 300	Subsurface Soil	0 5-2 5'	Radionuclides Metals SVOCs Nitrate PCBs VOCs	No significant difference Depth interval measured from beneath building
	CE49 008G	2083704 813	751196 300	2083704 813	751196 300	Subsurface Soil	10 5-12 5'	Radionuclides Metals SVOCs Nitrate PCBs VOCs	No significant difference Depth interval measured from beneath building
	CE49-009A	2083727 530	751192 893	2083708 276	751217 858	Subsurface Soil	0 0 5'	Radionuclides Metals SVOCs Nitrate PCBs	Moved north approximately 15 feet because of power line Depth interval measured from beneath building
	CE49-009B	2083727 530	751192 893	2083708 276	751217 858	Subsurface Soil	0 5-2 5'	Radionuclides Metals SVOCs Nitrate PCBs VOCs	Moved north approximately 15 feet because of power line Depth interval measured from beneath building
	CE49-009G	2083727 530	751192 893	2083708 276	751217 858	Subsurface Soil	10 5-12 5'	Radionuclides Metals SVOCs Nitrate PCBs VOCs	Moved north approximately 15 feet because of power line Depth interval measured from beneath building
Miscellaneous Tanks	CG48-011C	2084113 720	751032 738	2084113 720	751032 738	Surface Soil	0 0 5	Radionuclides Metals	Tanks are ASTs, soil sampled 0-0 5
	CG48-012C	2084114 856	751013 428	2084114 856	751013 428	Surface Soil	0-0 5	Radionuclides Metals	Tanks are ASTs, soil sampled 0-0 5
	CG48-013C	2083979 689	751086 123	2083979 689	751086 123	Surface Soil	0-0 5	Radionuclides Metals	Tanks are ASTs, soil sampled 0-0 5

IHSS/PAC/UBC Site	Location Code	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Media	Depth Interval	Analyte	Comment
Tanks 14 and 16	CH48-017F	2084148 576	751041 784	2084157 498	751042 102	Subsurface Soil	8 5-10 5'	Radionuclides Metals Nitrate	Moved to adjacent to Tank
	CH48-018F	2084142 382	751018 202	2084142 063	751011 828	Subsurface Soil	8 5 10 5'	Radionuclides Metals Nitrate	No significant difference
	CH48 019F	2084155 960	751017 487	2084162 970	751023 541	Subsurface Soil	8 5-10 5'	Radionuclides Metals Nitrate	Moved to adjacent to Tank
IHSS 700 215 – Abandoned Sump Near Building 774 Unit 55 13 T-40	CG48 006	2084095 604	751097 309	2084095 604	751097 309	Subsurface Soil	0-0 5'	Radionuclides Metals Nitrate SVOC	No significant difference Depth interval measured from beneath building
	CG48-007	2084126 123	751097 231	2084126 123	751097 231	Subsurface Soil	0-0 5'	Radionuclides Metals Nitrate SVOC	No significant difference Depth interval measured from beneath building
	CG48-008	2084126 045	751068 741	2084126 045	751068 741	Subsurface Soil	2 0-2 5'	Radionuclides Metals Nitrate SVOC	Collected beneath groundwater sump in Room 103 Depth interval measured from beneath building
	CG48-009	2084095 838	751069 053	2084095 838	751069 053	Subsurface Soil	0-0 5'	Radionuclides Metals Nitrate SVOC	No significant difference Depth interval measured from beneath building
	CG48 010	2084110 200	751082 557	2084110 200	751082 557	Subsurface Soil	0-0 5'	Radionuclides Metals Nitrate SVOC	No significant difference Depth interval measured from beneath building
Potential OPWL Leaks	CE49 000D	2083705 409	751183 646	2083705 409	751183 646	Subsurface Soil	4 5-6 5'	Radionuclides Metals Nitrate	No significant difference
	CH48 003D	2084147 496	751023 055	2084180 956	751051 416	Subsurface Soil	4 5-6 5'	Radionuclides Metals Nitrate	Relocated 30 feet northwest
	CH48-004D	2084184 413	750994 444	2084184 407	750994 441	Subsurface Soil	4 5-6 5'	Radionuclides Metals Nitrate	No significant difference
	CG48-004C	2084014 593	751119 964	2084014 593	751119 964	Subsurface Soil	4 5-6 5'	Radionuclides Metals Nitrate	No significant difference
	CG48-005C	2084095 811	751012 903	2084171 65389	751067 07650	Subsurface Soil	2 5-4 5'	Radionuclides Metals Nitrate	Original collection interval specified as 4 5 – 6 5'

IHSS/PAC/UBC Site	Location Code	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Media	Depth Interval	Analyte	Comment
	CE48 022D	2083554 235	751130 839			Subsurface Soil	4 5 6 5'	Radionuclides Metals Nitrate	Not Sampled Transferred to IHSS Group 000-2
	CE47-021D	2083556 465	750949 102			Subsurface Soil	4 5-6 5'	Radionuclides Metals Nitrate	Not Sampled Transferred to IHSS Group 000-2
	CG47 002D	2084093 873	750890 009	2084093 865	750889 9820	Subsurface Soil	4 5-6 5'	Radionuclides Metals Nitrate	No significant difference
	CG47 003D	2084102 793	750900 044	2084102 832	750900 030	Subsurface Soil	4 5 6 5'	Radionuclides Metals Nitrate	No significant difference
	CE49 012D	2083609 849	751178 113	2083609 849	751178 113	Subsurface Soil	4 5-6 5'	Radionuclides	Relocated 10 feet west because of power line
	CE48 023D	2083571 940	750964 042	2083571 940	750964 042	Subsurface Soil	0-0 5'	Radionuclides	Original location inaccessible because of hillslope Sampled at outfall of pipe to the north
	CE48-024D	2083606 504	751119 021	2083606 504	751119 021	Subsurface Soil	4 5-6 5'	Radionuclides	Moved north 15 feet because of utility/power line
	CG49 006D	2084024 612	751207 102	2084024 612	751207 102	Subsurface Soil	0 0 5'	Radionuclides	Original location inaccessible because of hillslope Sampled at outfall of pipe to the north
	CF48 018D	2083930 956	751112 331	2083930 956	751112 331	Subsurface Soil	4 5-6 5'	Radionuclides	Relocated to clear communication line
	CF49 017D	2083781 552	751200 413	2083781 676	751200 430	Subsurface Soil	4 5-6 5'	Radionuclides	Relocated 10 feet south and 15 feet west because of utility lines
	CG49-007D	2084092 625	751168 079	2084092 625	751168 079	Subsurface Soil	0-0 5'	Radionuclides	Sampled at outfall
	CG48-019D	2084129 418	751121 251	2084126 519	751119 415	Subsurface Soil	4 5-6 5'	Radionuclides	Offset 2 feet to southwest
Buildings 771 and 776 Tunnel (All depths start below building slab)	CE47 022	2083735 310	750843 609	2083735 310	750843 609	Subsurface Soil	0 0 5'	Radionuclides Metals SVOC VOC	No significant difference
	CE47-023	2083725 533	750766 477	2083725 533	750766 477	Subsurface Soil	0-0 5'	Radionuclides Metals SVOC VOC	No significant difference
	CE46-001	2083707 065	750662 186	2083707 065	750662 186	Subsurface Soil	0-0 5'	Radionuclides Metals SVOC VOC	No significant difference
700-150 2(N) - Radioactive Site West of Buildings 771/776	CE48-008	2083694 258	751140 525	2083690 363	751144 198	Surface Soil	0-0 5'	Radionuclides Metals SVOC	Moved out from wall 5 feet to the west

IHSS/PAC/UBC Site	Location Code	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Media	Depth Interval	Analyte	Comment
	CE48-009	2083632 898	751129 436	2083641 8	751129 707	Surface Soil	0-0 5'	Radionuclides Metals SVOC	Moved 10 feet east because of utilities
	CE48 010	2083599 017	751141 604	2083609	751140 562	Surface Soil	0-0 5'	Radionuclides Metals SVOC	Relocated because of proximity to underground utilities
	CE48 011	2083605 419	751106 178	2083505 4	751106 199	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference
	CE48 012	2083631 029	750964 474	2083630 96	750964 572	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference
	CE47 011	2083637 431	750929 048	2083637 74	750929 184	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference
	CE48-013	2083571 538	751118 347	2083586 48	751118 234	Surface Soil	0-0 5'	Radionuclides Metals SVOC	Moved ten feet east because original location was under a building
	CE48-014	2083577 941	751082 921	2083577 94	751082 916	Surface Soil	0 0 5'	Radionuclides Metals SVOC	No significant difference
	CE48-015	2083597 148	750976 642	2083597 19	750976 547	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference
	CE47-012	2083603 550	750941 216	2083603 58	750941 287	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference
	CE47 013	2083609 952	750905 790	2083609 82	750905 49	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference
	CE47 014	2083616 355	750870 364	2083616 36	750870 394	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference
	CE48-016	2083537 657	751130 515	2083537 71	751130 541	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference
	CE48-017	2083544 060	751095 089	2083544 06	751095 089	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference
	CE48-018	2083550 462	751059 663	2083550 49	751059 651	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference

IHSS/PAC/UBC Site	Location Code	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Media	Depth Interval	Analyte	Comment
	CE48 019	2083556 864	751024 237	2083556 71	751024 376	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference
	CE47-015	2083569 669	750953 385	2083569 49	750948 167	Surface Soil	0-0 5'	Radionuclides Metals SVOC	Moved five feet south for accessibility
	CE47 016	2083576 071	750917 958	2083576 04	750917 939	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference
	CE47 017	2083582 474	750882 532	2083582 47	750882 553	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference
	CD48 000	2083529 385	751000 979	2083529 39	751000 938	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference
	CD48 001	2083535 788	750965 553	2083535 82	750965 504	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference
	CE47 018	2083542 190	750930 127	2083542 17	750930 086	Surface Soil	0-0 5'	Radionuclides Metals SVOC	No significant difference
	CE47-019	2083548 593	750894 701	2083548 62	750894 757	Surface Soil	0-0 5'	Radionuclides Metals SVOC	Relocated because of proximity to underground utilities
	CE47 020	2083554 995	750859 275	2083555 13	750859 097	Surface Soil	0 0 5'	Radionuclides Metals SVOC	No significant difference
700 163 1 - Radioactive Site 700 North of Building 774 (Area 3) Wash Area	CH48-005	2084304 082	751091 925	2084304 12	751091 815	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	No significant difference
	CH48-006	2084268 301	751087 955	2084268 29	751088 041	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	No significant difference
	CH48-007	2084232 521	751083 986	2084232 38	751083 745	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	No significant difference
	CH48-008	2084282 754	751120 927	2084282 64	751120 857	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	No significant difference

IHSS/PAC/UBC Site	Location Code	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Media	Depth Interval	Analyte	Comment
	CH48-009	2084246 973	751116 957	2084246 91	751117 138	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	No significant difference
	CH48 010	2084211 193	751112 988	2084212 01	751112 81	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	No significant difference
	CH48 011	2084297 207	751153 898	2084297 27	751154 026	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	No significant difference
	CH48 012	2084261 426	751149 929	2084261 43	751149 902	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	No significant difference
	CH48 013	2084225 646	751145 960	2084225 81	751146 003	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	No significant difference
	CH48 014	2084189 865	751141 990	2084190 14	751141 918	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	No significant difference
	CH48-015	2084154 085	751138 021	2084154 33	751137 92	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	No significant difference
	CH49 000	2084311 659	751186 870	2084311 76	751186 774	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	No significant difference
	CH49 001	2084275 879	751182 900	2084275 82	751182 874	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	No significant difference
	CH49-002	2084240 098	751178 931	2084255 123	751190 066	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	Relocated ten feet to the east, original location under trailer
	CH49-003	2084204 318	751174 962	2084206 55	751164 908	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	Relocated because of proximity to underground utilities

IHSS/PAC/UBC Site	Location Code	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Media	Depth Interval	Analyte	Comment
	CH49 004	2084218 771	751207 933	2084218 87	751207 841	Surface Soil	0-0 5'	Radionuclides Metals SVOCs PCBs	No significant difference
700 150 1 - Radioactive Site North of Building 771	CE48-020	2083638 997	751148 995	2083638 88	751148 925	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
	CE49 001	2083624 756	751182 058	2083624 42	751181 97	Surface Soil	0 0 5'	Radionuclides Metals	No significant difference
	CE48 021	2083674 751	751144 796	2083674 709	751144 933	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
	CE49 002	2083660 510	751177 859	2083650 888	751168 089	Surface Soil	0-0 5'	Radionuclides Metals	Relocated because original location under conex
	CE49-003	2083646 270	751210 923	2083646 3	751210 967	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
	CE49 004	2083696 265	751173 660	2083696 24	751173 715	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
	CE49 005	2083682 024	751206 724	2083682 02	751206 724	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
	CE49 006	2083732 019	751169 461	2083732 18	751169 396	Surface Soil	0 0 5'	Radionuclides Metals	No significant difference
	CE49-007	2083717 778	751202 525	2083720 658	751210 142	Surface Soil	0-0 5'	Radionuclides Metals	Relocated ten feet to the northeast, original location under connex
	CF49 000	2083767 773	751165 262	2083767 89	751164 972	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
	CF49 001	2083753 533	751198 326	2083753 47	751198 358	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
	CF48-014	2083803 528	751161 063	2083803 55	751161 121	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
	CF49 002	2083789 287	751194 127	2083789 14	751194 007	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
	CF48-015	2083839 282	751156 864	2083840 368	751160 778	Surface Soil	0-0 5'	Radionuclides Metals	Relocated 10 feet to the northeast because of underground utilities
	CF49-003	2083825 041	751189 928	2083825 105	751189 756	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
	CF49-004	2083860 795	751185 729	2083860 692	751185 588	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
	CF49-005	2083896 550	751181 530	2083896 613	751181 495	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
	CF49-006	2083882 309	751214 593	2083875 213	751218 148	Surface Soil	0-0 5'	Radionuclides Metals	Relocated ten feet to the west, original location under building
	CF49-007	2083932 304	751177 331	2083932 293	751177 223	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
	CF49-008	2083918 063	751210 394	2083918 682	751210 291	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference

IHSS/PAC/UBC Site	Location Code	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Media	Depth Interval	Analyte	Comment
	CF49 009	2083903 823	751243 458	2083903 515	751243 42	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
	CG49 000	2083968 058	751173 132	2083967 92	751173 028	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
	CG49-001	2083953 818	751206 195	2083953 892	751206 161	Surface Soil	0-0 5'	Radionuclides Metals	No significant difference
700 163 2 Radioactive Site 700 Area 3 Americium (Am) Slab	CF49 012	2083812 847	751253 869	2083831 387	751305 176	Surface Soil	0-0 5'	Radionuclides	Relocated twenty feet north, original location under CCA trailer
	CF49 012	2083812 847	751253 869	2083831 387	751305 176	Subsurface Soil	0 5 2 5'	Radionuclides	Relocated twenty feet north, original location under CCA trailer
	CF49 013	2083851 879	751255 171	2083853 434	751304 939	Surface Soil	0-0 5'	Radionuclides	Relocated twenty feet north, original location under CCA trailer
	CF49-013	2083851 879	751255 171	2083853 434	751304 939	Subsurface Soil	0 5-10 5'	Radionuclides	Relocated twenty feet north, original location under CCA trailer
	CF49-014	2083853 181	751233 052	2083853 422	751286 076	Surface Soil	0-0 5'	Radionuclides	Relocated twenty feet north, original location under CCA trailer
	CF49 014	2083853 181	751233 052	2083853 422	751286 076	Subsurface Soil	0 5-10 5'	Radionuclides	Relocated twenty feet north, original location under CCA trailer
	CF49-015	2083812 847	751233 052	2083831 756	751285 175	Surface Soil	0-0 5'	Radionuclides	Relocated twenty feet north, original location under CCA trailer
	CF49-015	2083812 847	751233 052	2083831 756	751285 175	Subsurface Soil	0 5-10 5'	Radionuclides	Relocated twenty feet north, original location under CCA trailer
	CF49 016	2083833 664	751240 858	2083842 564	751295 677	Surface Soil	0-0 5'	Radionuclides	Relocated twenty feet north, original location under CCA trailer
	CF49-016	2083833 664	751240 858	2083842 564	751295 677	Subsurface Soil	0 5-10 5'	Radionuclides	Relocated twenty feet north, original location under CCA trailer
700 139 1(N)(b) - Hydroxide Tank, KOH NaOH Condensate	CG48-015	2084126 411	751119 857	2084126 519	751119 415	Surface Soil	0-0 5'	Radionuclides Metals Nitrate	No significant difference
	CG48-015	2084126 411	751119 857	2084126 519	751119 415	Subsurface Soil	0 5-2 5'	Radionuclides Metals Nitrate	No significant difference
IHSS 139 2 – Caustic/Acid Spills Hydrofluoric Tank	CF47-006	2083896 117	750802 389	2083896 08	750802 462	Surface Soil	0-0 5'	Radionuclides Metals SVOCs	Relocated because of proximity to underground utilities
	CF47-007	2083914 332	750788 077	2083914 33	750788 07	Surface Soil	0-0 5'	Radionuclides Metals SVOCs	Relocated because of proximity to underground utilities
700-150 3 – Radioactive Site Between Buildings 771 and 774	CF48-017	2083924 220	751018 267	2083924 677	751018 377	Subsurface Soil	0 5-2 5'	Radionuclides Metals VOCs	No significant difference

IHSS/PAC/UBC Site	Location Code	Proposed Easting	Proposed Northing	Actual Easting	Actual Northing	Media	Depth Interval	Analyte	Comment
	CG48-016	2083956 696	751017 434	2083956 548	751017 273	Subsurface Soil	0 5-2 5'	Radionuclides Metals VOCs	Relocated two feet south because of utilities
	CG48-017	2084026 643	751016 602	2084026 765	751016 607	Subsurface Soil	0 5 2 5'	Radionuclides Metals VOCs	No significant difference
	CG48-018	2084064 947	751049 910	2084064 95	751049 91	Subsurface Soil	0 5-2 5'	Radionuclides Metals VOCs	No significant difference
IHSS 149 1 (Solar Evaporation Ponds)	CH48-020D	2084187 354	751051 575	2084187 54	751051 722	Subsurface Soil	4 5-6 5'	Radionuclides Metals Nitrate	Relocated south 5 feet and west 5 feet
	CH48-021D	2084253 970	751015 769	2084253 99	751015 76	Subsurface Soil	4 5-6 5'	Radionuclides Metals Nitrate	Relocated twenty feet west because of power line
Pipe at Maintenance Shop	CE48-027			2083566 34	751065 23	Subsurface Soil	0- 5	Radionuclides Metals VOCs	Sample location added because building personnel identified issue Location determined by building personnel Depth interval measured from beneath building
	CE48-028			2083538 06	751064 32			Radionuclides Metals VOCs	Sample location added because building personnel identified issue Location determined by building personnel

Am - Americium
AST – above ground storage tank
CCA – Configuration
PCB- polychlorinated biphenyl
OPWL – Original Process Waste Line
SVOC- semivolatile organic compound
VOC – volatile organic compound

Table 3
IHSS Group 700-4 Results Greater Than Background Means Plus Two Standard Deviations or Detection Limits

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
UBC 771 – Plutonium and Americium Recovery Operation (All depths start below building slab)	CE47-000	2083724 010	750861 638	Barium	643 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-000	2083724 010	750861 638	Copper	85 500	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-000	2083724 010	750861 638	Uranium-234	2 300	1 470	2 000	0 0	0 5	300	1800	pCi/g
	CE47-000	2083724 010	750861 638	Uranium-238	2 300	1 470	2 000	0 0	0 5	351	1600	pCi/g
	CE47-000	2083724 010	750861 638	Vanadium	138 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE47-001	2083652 650	750871 216	Arsenic	12 50	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE47-001	2083652 650	750871 216	Barium	689 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-001	2083652 650	750871 216	Chromium	28 90	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CE47-001	2083652 650	750871 216	Copper	57 50	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-001	2083652 650	750871 216	Iron	25200 00	2190 00	18037 000	0 0	0 5	307000	NA	mg/kg
	CE47-001	2083652 650	750871 216	Nickel	34 40	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CE47-001	2083652 650	750871 216	Strontium	112 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg
	CE47-001	2083652 650	750871 216	Uranium-234	6 20	1 31	2 253	0 0	0 5	300	1800	pCi/g
	CE47-001	2083652 650	750871 216	Uranium-235	0 44	0 20	0 094	0 0	0 5	8	1900	pCi/g
	CE47-001	2083652 650	750871 216	Uranium-238	6 20	1 31	2 000	0 0	0 5	351	1600	pCi/g
	CE47-001	2083652 650	750871 216	Vanadium	129 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CE47-001	2083652 650	750871 216	Zinc	96 20	9 00	73 760	0 0	0 5	307000	NA	mg/kg
	CE47-002	2083696 625	750928 227	Arsenic	11 60	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE47-002	2083696 625	750928 227	Barium	680 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-002	2083696 625	750928 227	Chromium	28 80	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CE47-002	2083696 625	750928 227	Copper	102 00	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-002	2083696 625	750928 227	Iron	39100 00	2190 00	18037 000	0 0	0 5	307000	NA	mg/kg
	CE47-002	2083696 625	750928 227	Manganese	579 00	158 00	365 080	0 0	0 5	3480	NA	mg/kg
	CE47-002	2083696 625	750928 227	Nickel	52 70	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CE47-002	2083696 625	750928 227	Strontium	203 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg
	CE47-002	2083696 625	750928 227	Uranium-234	2 90	1 63	2 253	0 0	0 5	300	1800	pCi/g
	CE47-002	2083696 625	750928 227	Uranium-235	0 30	0 11	0 094	0 0	0 5	8	1900	pCi/g
	CE47-002	2083696 625	750928 227	Uranium-238	2 90	1 63	2 000	0 0	0 5	351	1600	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE47-002	2083696 625	750928 227	Vanadium	164 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CE47-002	2083696 625	750928 227	Zinc	108 00	9 00	73 760	0 0	0 5	307000	NA	mg/kg
	CE48-000	2083669 240	750994 815	Barium	748 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-000	2083669 240	750994 815	Copper	60 60	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-000	2083669 240	750994 815	Uranium-234	3 30	1 37	2 253	0 0	0 5	300	1800	pCi/g
	CE48-000	2083669 240	750994 815	Uranium-235	0 19	0 15	0 094	0 0	0 5	8	1900	pCi/g
	CE48-000	2083669 240	750994 815	Uranium-238	3 30	1 37	2 000	0 0	0 5	351	1600	pCi/g
	CE48-000	2083669 240	750994 815	Vanadium	125 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CE48-002	2083713 215	751051 826	Arsenic	13 80	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE48-002	2083713 215	751051 826	Barium	668 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-002	2083713 215	751051 826	Copper	105 00	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-002	2083713 215	751051 826	Vanadium	129 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CE48-003	2083641 855	751061 404	4-Methyl-2-pentanone	77 00	49 00	NA	0 0	0 5	16400000	NA	ug/kg
	CE48-003	2083641 855	751061 404	Barium	691 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-003	2083641 855	751061 404	Copper	61 00	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-003	2083641 855	751061 404	Uranium-234	2 30	0 97	2 253	0 0	0 5	300	1800	pCi/g
	CE48-003	2083641 855	751061 404	Uranium-238	2 30	0 97	2 000	0 0	0 5	351	1600	pCi/g
	CE48-003	2083641 855	751061 404	Vanadium	133 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CF47-000	2083795 370	750852 059	Arsenic	17 00	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF47-000	2083795 370	750852 059	Barium	666 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CF47-000	2083795 370	750852 059	Benzyl Alcohol	260 00	94 00	NA	0 0	0 5	307000000	NA	ug/kg
	CF47-000	2083795 370	750852 059	Copper	86 00	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CF47-000	2083795 370	750852 059	Uranium-235	0 26	0 10	0 094	0 0	0 5	8	1900	pCi/g
	CF47-000	2083795 370	750852 059	Vanadium	152 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CF47-001	2083910 705	750899 491	Arsenic	17 90	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF47-001	2083910 705	750899 491	Barium	680 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CF47-001	2083910 705	750899 491	Copper	181 00	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CF47-001	2083910 705	750899 491	Uranium-234	4 60	1 02	2 253	0 0	0 5	300	1800	pCi/g
	CF47-001	2083910 705	750899 491	Uranium-238	4 60	1 02	2 000	0 0	0 5	351	1600	pCi/g
	CF47-001	2083910 705	750899 491	Vanadium	162 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CF47-002	2083839 345	750909 070	Barium	586 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CF47-002	2083839 345	750909 070	Copper	78 60	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CF47-002	2083839 345	750909 070	Uranium-234	3 20	1 23	2 253	0 0	0 5	300	1800	pCi/g
	CF47-002	2083839 345	750909 070	Uranium-238	3 20	1 23	2 000	0 0	0 5	351	1600	pCi/g
	CF47-002	2083839 345	750909 070	Vanadium	111 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CF47-003	2083767 985	750918 648	Arsenic	15 30	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF47-003	2083767 985	750918 648	Barium	660 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CF47-003	2083767 985	750918 648	Benzyl Alcohol	520 00	89 00	NA	0 0	0 5	307000000	NA	ug/kg
	CF47-003	2083767 985	750918 648	Butylbenzylphthalate	120 00	69 00	NA	0 0	0 5	147000000	NA	ug/kg
	CF47-003	2083767 985	750918 648	Chromium	38 20	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CF47-003	2083767 985	750918 648	Copper	107 00	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CF47-003	2083767 985	750918 648	Iron	39900 00	2190 00	18037 000	0 0	0 5	307000	NA	mg/kg
	CF47-003	2083767 985	750918 648	Manganese	618 00	158 00	365 080	0 0	0 5	3480	NA	mg/kg
	CF47-003	2083767 985	750918 648	Nickel	51 30	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CF47-003	2083767 985	750918 648	Strontium	199 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg
	CF47-003	2083767 985	750918 648	Uranium-235	0 19	0 16	0 094	0 0	0 5	8	1900	pCi/g
	CF47-003	2083767 985	750918 648	Vanadium	123 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CF47-003	2083767 985	750918 648	Zinc	117 00	9 00	73 760	0 0	0 5	307000	NA	mg/kg
	CF48-000	2083883 320	750966 080	Arsenic	11 700	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF48-000	2083883 320	750966 080	Barium	660 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CF48-000	2083883 320	750966 080	Chromium	24 70	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CF48-000	2083883 320	750966 080	Copper	71 50	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CF48-000	2083883 320	750966 080	Iron	31500 00	2190 00	18037 000	0 0	0 5	307000	NA	mg/kg
	CF48-000	2083883 320	750966 080	Manganese	409 00	158 00	365 080	0 0	0 5	3480	NA	mg/kg
	CF48-000	2083883 320	750966 080	Nickel	43 30	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CF48-000	2083883 320	750966 080	Strontium	187 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg
	CF48-000	2083883 320	750966 080	Uranium-234	5 10	1 96	2 253	0 0	0 5	300	1800	pCi/g
	CF48-000	2083883 320	750966 080	Uranium-238	5 10	1 96	2 000	0 0	0 5	351	1600	pCi/g
	CF48-000	2083883 320	750966 080	Vanadium	136 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CF48-000	2083883 320	750966 080	Zinc	172 00	9 00	73 760	0 0	0 5	307000	NA	mg/kg
	CF48-003	2083855 935	751032 669	Arsenic	17 40	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CF48-003	2083855 935	751032 669	Barium	718 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CF48-003	2083855 935	751032 669	Benzo(a)anthracene	100 00	42 00	NA	0 0	0 5	34900	800000	ug/kg
	CF48-003	2083855 935	751032 669	Benzo(a)pyrene	100 00	55 00	NA	0 0	0 5	3490	25700	ug/kg
	CF48-003	2083855 935	751032 669	Benzo(b)fluoranthene	98 00	68 00	NA	0 0	0 5	34900	1010000	ug/kg
	CF48-003	2083855 935	751032 669	Benzo(k)fluoranthene	90 00	73 00	NA	0 0	0 5	349000	1010000	ug/kg
	CF48-003	2083855 935	751032 669	Benzyl Alcohol	140 00	88 00	NA	0 0	0 5	307000000	NA	ug/kg
	CF48-003	2083855 935	751032 669	Chromium	35 40	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CF48-003	2083855 935	751032 669	Chrysene	130 00	36 00	NA	0 0	0 5	3490000	NA	ug/kg
	CF48-003	2083855 935	751032 669	Copper	112 00	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CF48-003	2083855 935	751032 669	Fluoranthene	250 00	42 00	NA	0 0	0 5	27200000	NA	ug/kg
	CF48-003	2083855 935	751032 669	Indeno(1,2,3-cd)pyrene	54 00	47 00	NA	0 0	0 5	34900	NA	ug/kg
	CF48-003	2083855 935	751032 669	Iron	32200 00	2190 00	18037 000	0 0	0 5	307000	NA	mg/kg
	CF48-003	2083855 935	751032 669	Manganese	506 00	158 00	365 080	0 0	0 5	3480	NA	mg/kg
	CF48-003	2083855 935	751032 669	Nickel	44 10	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CF48-003	2083855 935	751032 669	Pyrene	220 00	60 00	NA	0 0	0 5	22100000	NA	ug/kg
	CF48-003	2083855 935	751032 669	Strontium	187 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg
	CF48-003	2083855 935	751032 669	Uranium-234	3 20	1 88	2 253	0 0	0 5	300	1800	pCi/g
	CF48-003	2083855 935	751032 669	Uranium-238	3 20	1 88	2 000	0 0	0 5	351	1600	pCi/g
	CF48-003	2083855 935	751032 669	Vanadium	135 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CF48-003	2083855 935	751032 669	Zinc	109 00	9 00	73 760	0 0	0 5	307000	NA	mg/kg
	CF48-004	2083784 575	751042 247	Arsenic	18 00	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF48-004	2083784 575	751042 247	Barium	621 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CF48-004	2083784 575	751042 247	Chromium	37 70	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CF48-004	2083784 575	751042 247	Copper	83 70	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CF48-004	2083784 575	751042 247	Iron	33100 00	2190 00	18037 000	0 0	0 5	307000	NA	mg/kg
	CF48-004	2083784 575	751042 247	Manganese	455 00	158 00	365 080	0 0	0 5	3480	NA	mg/kg
	CF48-004	2083784 575	751042 247	Nickel	47 80	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CF48-004	2083784 575	751042 247	Strontium	181 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg
	CF48-004	2083784 575	751042.247	Vanadium	99 60	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CF48-004	2083784 575	751042 247	Zinc	89 20	9 00	73 760	0 0	0 5	307000	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CF48-005	2083899 910	751089 679	Americium-241	1 00	0 57	0 023	0 0	0 5	76	1900	pCi/g
	CF48-005	2083899 910	751089 679	Arsenic	11 60	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF48-005	2083899 910	751089 679	Barium	612 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CF48-005	2083899 910	751089 679	Chromium	38 70	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CF48-005	2083899 910	751089 679	Copper	291 00	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CF48-005	2083899 910	751089 679	Iron	31900 00	2190 00	18037 000	0 0	0 5	307000	NA	mg/kg
	CF48-005	2083899 910	751089 679	Manganese	412 00	158 00	365 080	0 0	0 5	3480	NA	mg/kg
	CF48-005	2083899 910	751089 679	Nickel	42 30	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CF48-005	2083899 910	751089 679	Plutonium-239/240	11 32	0 57	0 066	0 0	0 5	50/116	3800	pCi/g
	CF48-005	2083899 910	751089 679	Strontium	338 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg
	CF48-005	2083899 910	751089 679	Vanadium	127 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CF48-005	2083899 910	751089 679	Zinc	353 00	9 00	73 760	0 0	0 5	307000	NA	mg/kg
	CF48-006	2083828 550	751099 258	Americium-241	0 77	0 51	0 023	0 0	0 5	76	1900	pCi/g
	CF48-006	2083828 550	751099 258	Arsenic	13 40	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF48-006	2083828 550	751099.258	Barium	762 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CF48-006	2083828 550	751099.258	Benzyl Alcohol	160 00	89 00	NA	0 0	0 5	307000000	NA	ug/kg
	CF48-006	2083828 550	751099.258	Chromium	24 90	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CF48-006	2083828 550	751099 258	Copper	93 70	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CF48-006	2083828 550	751099 258	Iron	33100 00	2190 00	18037 000	0 0	0 5	307000	NA	mg/kg
	CF48-006	2083828 550	751099 258	Manganese	568 00	158 00	365 080	0 0	0 5	3480	NA	mg/kg
	CF48-006	2083828 550	751099 258	Nickel	46 40	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CF48-006	2083828 550	751099 258	Plutonium-239/240	9 46	0 51	0 066	0 0	0 5	50/116	3800	pCi/g
	CF48-006	2083828 550	751099 258	Strontium	216 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg
	CF48-006	2083828 550	751099 258	Uranium-234	3 80	1 66	2 253	0 0	0 5	300	1800	pCi/g
	CF48-006	2083828 550	751099 258	Uranium-238	3 80	1 66	2 000	0 0	0 5	351	1600	pCi/g
	CF48-006	2083828 550	751099 258	Vanadium	119 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CF48-006	2083828 550	751099 258	Zinc	96 30	9 00	73 760	0 0	0 5	307000	NA	mg/kg
	CF48-007	2083757 190	751108 836	Anthracene	220 00	72 00	NA	0 0	0 5	204000000	NA	ug/kg
	CF48-007	2083757 190	751108 836	Fluoranthene	220 00	43 00	NA	0 0	0 5	27200000	NA	ug/kg
	CF48-007	2083757 190	751108 836	Pyrene	290 00	62 00	NA	0 0	0 5	22100000	NA	ug/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CF48-007	2083757 190	751108 836	Uranium-234	4 80	1 40	2 253	0 0	0 5	300	1800	pCi/g
	CF48-007	2083757 190	751108 836	Uranium-235	0 18	0 14	0 094	0 0	0 5	8	1900	pCi/g
	CF48-007	2083757 190	751108 836	Uranium-238	4 80	1 40	2 000	0 0	0 5	351	1600	pCi/g
UBC 774 – Liquid Process Waste Treatment (All depths start below building slab)	CG48-000	2084113 990	751060 944	Barium	785 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CG48-000	2084113 990	751060 944	Benzo(a)anthracene	120 00	41 00	NA	0 0	0 5	34900	800000	ug/kg
	CG48-000	2084113 990	751060 944	Benzo(a)pyrene	100 00	54 00	NA	0 0	0 5	3490	25700	ug/kg
	CG48-000	2084113 990	751060 944	Benzo(b)fluoranthene	87 00	66 00	NA	0 0	0 5	34900	1010000	ug/kg
	CG48-000	2084113 990	751060 944	Benzo(k)fluoranthene	87 00	72 00	NA	0 0	0 5	349000	1010000	ug/kg
	CG48-000	2084113 990	751060 944	Chrysene	140 00	36 00	NA	0 0	0 5	3490000	NA	ug/kg
	CG48-000	2084113 990	751060 944	Copper	139 00	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CG48-000	2084113 990	751060 944	Fluoranthene	240 00	41 00	NA	0 0	0 5	27200000	NA	ug/kg
	CG48-000	2084113 990	751060 944	Pyrene	240 00	59 00	NA	0 0	0 5	22100000	NA	ug/kg
	CG48-000	2084113 990	751060 944	Strontium	216 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg
	CG48-000	2084113 990	751060 944	Uranium-234	4 40	1 24	2 253	0 0	0 5	300	1800	pCi/g
	CG48-000	2084113 990	751060 944	Uranium-235	0 20	0 10	0 094	0 0	0 5	8	1900	pCi/g
	CG48-000	2084113 990	751060 944	Uranium-238	4 40	1 24	2 000	0 0	0 5	351	1600	pCi/g
	CG48-000	2084113 990	751060 944	Vanadium	90 50	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CG48-020	2084068 182	751120 168	2-Methylnaphthalene	42 00	39 00	NA	0 0	0 5	20400000	NA	ug/kg
	CG48-020	2084068 182	751120 168	Acenaphthene	210 00	50 00	NA	0 0	0 5	40800000	NA	ug/kg
	CG48-020	2084068 182	751120 168	Anthracene	200 00	73 00	NA	0 0	0 5	204000000	NA	ug/kg
	CG48-020	2084068 182	751120 168	Arsenic	14 60	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CG48-020	2084068 182	751120 168	Barium	608 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CG48-020	2084068 182	751120 168	Benzo(a)anthracene	460 00	44 00	NA	0 0	0 5	34900	800000	ug/kg
	CG48-020	2084068 182	751120 168	Benzo(a)pyrene	440 00	57 00	NA	0 0	0 5	3490	25700	ug/kg
	CG48-020	2084068 182	751120 168	Benzo(b)fluoranthene	360 00	70 00	NA	0 0	0 5	34900	1010000	ug/kg
	CG48-020	2084068 182	751120 168	Benzo(k)fluoranthene	430 00	76 00	NA	0 0	0 5	349000	1010000	ug/kg
	CG48-020	2084068 182	751120 168	Chrysene	580 00	38 00	NA	0 0	0 5	3490000	NA	ug/kg
	CG48-020	2084068 182	751120 168	Copper	101 00	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CG48-020	2084068 182	751120 168	Dibenz(a,h)anthracene	120 00	69 00	NA	0 0	0 5	3490	NA	ug/kg
	CG48-020	2084068 182	751120 168	Dibenzofuran	97 00	56 00	NA	0 0	0 5	2950000	NA	ug/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CG48-020	2084068 182	751120 168	Fluoranthene	1400 00	44 00	NA	0 0	0 5	27200000	NA	ug/kg
	CG48-020	2084068 182	751120 168	Fluorene	170 00	60 00	NA	0 0	0 5	40800000	NA	ug/kg
	CG48-020	2084068 182	751120 168	Indeno(1,2,3-cd)pyrene	240 00	49 00	NA	0 0	0 5	34900	NA	ug/kg
	CG48-020	2084068 182	751120 168	Naphthalene	120 00	47 00	NA	0 0	0 5	3090000	NA	ug/kg
	CG48-020	2084068 182	751120 168	Pyrene	1300 00	63 00	NA	0 0	0 5	22100000	NA	ug/kg
	CG48-020	2084068 182	751120 168	Uranium-234	2 90	1 51	2 000	0 0	0 5	300	1800	pCi/g
	CG48-020	2084068 182	751120 168	Uranium-235	0 24	0 13	0 094	0 0	0 5	8	1900	pCi/g
	CG48-020	2084068 182	751120 168	Uranium-238	2 90	1 51	2 000	0 0	0 5	351	1600	pCi/g
	CG48-020	2084068 182	751120 168	Vanadium	123 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
Building Sumps (All depths start below building slab)	CE47-003	2083722 762	750923 295	Americium-241	6 60	0 77	0 023	0 0	0 5	76	1900	pCi/g
	CE47-003	2083722 762	750923 295	Arsenic	12 10	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE47-003	2083722 762	750923 295	Barium	616 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-003	2083722 762	750923 295	Chromium	40 50	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CE47-003	2083722 762	750923 295	Copper	53 60	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-003	2083722 762	750923 295	Iron	37300 00	2190 00	18037 000	0 0	0 5	307000	NA	mg/kg
	CE47-003	2083722 762	750923.295	Manganese	605 00	158 00	365 080	0 0	0 5	3480	NA	mg/kg
	CE47-003	2083722 762	750923.295	Nickel	42 80	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CE47-003	**2083722 762**	**750923.295**	**Plutonium-239/240**	**56 57**	**0 77**	**0 066**	**0 0**	**0 5**	**50/116**	**3800**	**pCi/g**
	CE47-003	2083722 762	750923 295	Strontium	183 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg
	CE47-003	2083722 762	750923 295	Uranium-234	2 40	1 59	2 3	0 0	0 5	300	1800	pCi/g
	CE47-003	2083722 762	750923 295	Uranium-238	2 40	1 59	2 000	0 0	0 5	351	1600	pCi/g
	CE47-003	2083722 762	750923 295	Vanadium	143 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CE47-003	2083722 762	750923 295	Zinc	86 90	9 00	73 760	0 0	0 5	307000	NA	mg/kg
	CE47-004	2083675 837	750918 963	Barium	489 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-004	2083675 837	750918 963	Chromium	51 40	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CE47-004	2083675 837	750918 963	Copper	72 60	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-004	2083675 837	750918 963	Iron	21300 00	2190 00	18037 000	0 0	0 5	307000	NA	mg/kg
	CE47-004	2083675 837	750918 963	Nickel	26 30	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CE47-004	2083675 837	750918 963	Strontium	126 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg
	CE47-004	2083675 837	750918 963	Uranium-234	4 70	1 20	2 3	0 0	0 5	300	1800	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE47-004	2083675 837	750918 963	Uranium-235	0 13	0 09	0 094	0 0	0 5	8	1900	pCi/g
	CE47-004	2083675 837	750918 963	Uranium-238	4 70	1 20	2 000	0 0	0 5	351	1600	pCi/g
	CE47-004	2083675 837	750918 963	Vanadium	164 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CE47-009	2083639 019	750921 129	Barium	595 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-009	2083639 019	750921 129	Copper	74 20	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-009	2083639 019	750921 129	Uranium-234	4 60	1 27	2 3	0 0	0 5	300	1800	pCi/g
	CE47-009	2083639 019	750921 129	Uranium-235	0 27	0 11	0 094	0 0	0 5	8	1900	pCi/g
	CE47-009	2083639 019	750921 129	Uranium-238	4 60	1 27	2 000	0 0	0 5	351	1600	pCi/g
	CE47-009	2083639 019	750921 129	Vanadium	169 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CE48-006	2083658 511	750966 610	Barium	666 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-006	2083658 511	750966 610	Benzyl Alcohol	1600 00	88 00	NA	0 0	0 5	307000000	NA	ug/kg
	CE48-006	2083658 511	750966 610	Copper	79 80	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-006	2083658 511	750966 610	Uranium-234	4 80	1 41	2 3	0 0	0 5	300	1800	pCi/g
	CE48-006	2083658 511	750966 610	Uranium-235	0 25	0 11	0 094	0 0	0 5	8	1900	pCi/g
	CE48-006	2083658 511	750966 610	Uranium-238	4 80	1 41	2 000	0 0	0 5	351	1600	pCi/g
	CE48-006	2083658 511	750966 610	Vanadium	161 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CE48-007	2083683 056	750986 102	Barium	566 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-007	2083683 056	750986 102	Copper	70 60	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-007	2083683 056	750986 102	Uranium-234	2 80	1 67	2 3	0 0	0 5	300	1800	pCi/g
	CE48-007	2083683 056	750986 102	Uranium-238	2 80	1 67	2 000	0 0	0 5	351	1600	pCi/g
	CE48-007	2083683 056	750986 102	Vanadium	107 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CF47-005	2083781 238	750890 086	Arsenic	17 00	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF47-005	2083781 238	750890 086	Barium	1010 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CF47-005	2083781 238	750890 086	Copper	85 10	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CF47-005	2083781 238	750890 086	Uranium-234	5 30	1 37	2 3	0 0	0 5	300	1800	pCi/g
	CF47-005	2083781 238	750890 086	Uranium-235	0 29	0 11	0 094	0 0	0 5	8	1900	pCi/g
	CF47-005	2083781 238	750890 086	Uranium-238	5 30	1 37	2 000	0 0	0 5	351	1600	pCi/g
	CF47-005	2083781 238	750890 086	Vanadium	117 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CF48-012	2083754 526	750974 551	Barium	566 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CF48-012	2083754 526	750974 551	Copper	42 20	4 00	18 060	0 0	0 5	40900	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CF48-012	2083754 526	750974 551	Di-n-butylphthalate	75 00	70 00	NA	0 0	0 5	73700000	NA	ug/kg
	CF48-012	2083754 526	750974 551	Uranium-235	0 24	0 11	0 094	0 0	0 5	8	1900	pCi/g
	CF48-012	2083754 526	750974 551	Vanadium	157 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CE49-012	2083598 842	751172 240 0	Uranium-234	3 059	1 380	2 6	4 5	6 5	300	1800	pCi/g
	CE49-012	2083598 842	751172 240 0	Uranium-235	0 171	0 090	0 12	4 5	6 5	8	1900	pCi/g
	CE49-012	2083598 842	751172 240 0	Uranium-238	3 059	1 380	1 49	4 5	6 5	351	1600	pCi/g
	CF48-012	2083754 526	750974 551 0	Uranium-234	5 400	1 810	2 6	1 0	2 5	300	1800	pCi/g
	CF48-012	2083754 526	750974 551 0	Uranium-235	0 340	0 119	0 12	1 0	2 5	8	1900	pCi/g
	CF48-012	2083754 526	750974 551 0	Uranium-238	5 400	1 810	1 49	1 0	2 5	351	1600	pCi/g
	CF48-013	2083748 751	750966 610	Barium	651 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CF48-013	2083748 751	750966 610	Chromium	106 00	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CF48-013	2083748 751	750966 610	Copper	97 50	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CF48-013	2083748 751	750966 610	Uranium-234	3 40	1 77	2 3	0 0	0 5	300	1800	pCi/g
	CF48-013	2083748 751	750966 610	Uranium-235	0 14	0 11	0 094	0 0	0 5	8	1900	pCi/g
	CF48-013	2083748 751	750966 610	Uranium-238	3 40	1 77	2 000	0 0	0 5	351	1600	pCi/g
	CF48-013	2083748 751	750966 610	Vanadium	180 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CE48-025	2083684 818	750993 441	Barium	1020 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-025	2083684 818	750993 441	Copper	57 90	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-025	2083684 818	750993 441	Di-n-butylphthalate	380 00	67 00	NA	0 0	0 5	73700000	NA	ug/kg
	CE48-025	2083684 818	750993 441	Uranium-234	2 10	1 78	2 000	0 0	0 5	300	1800	pCi/g
	CE48-025	2083684 818	750993 441	Uranium-235	0 16	0 14	0 094	0 0	0 5	8	1900	pCi/g
	CE48-025	2083684 818	750993 441	Uranium-238	2 10	1 78	2 000	0 0	0 5	351	1600	pCi/g
	CE48-025	2083684 818	750993 441	Vanadium	107 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CE48-026	2083724 006	751010 236	4-Methyl-2-pentanone	65 00	58 00	NA	0 0	0 5	16400000	NA	ug/kg
	CE48-026	2083724 006	751010 236	Barium	646 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-026	2083724 006	751010.236	Phenol	110 00	61 00	NA	0 0	0 5	613000000	NA	ug/kg
	CE48-026	2083724 006	751010 236	Vanadium	118 00	31 00	45 590	0 0	0 5	7150	433	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
Tank 8- OPWL – East and West Process Tanks Miscellaneous Tanks	CE49-008	2083695 019	751217 860	Anthracene	110 000	69 000	NA	0 5	2 5	204000000	NA	ug/kg
	CE49-008	2083695 019	751217 860	Benzo(a)anthracene	480 000	41 000	NA	0 5	2 5	34900	800000	ug/kg
	CE49-008	2083695 019	751217 860	Benzo(a)pyrene	520 000	54 000	NA	0 5	2 5	3490	25700	ug/kg
	CE49-008	2083695 019	751217 860	Benzo(b)fluoranthene	450 000	67 000	NA	0 5	2 5	34900	1010000	ug/kg
	CE49-008	2083695 019	751217 860	Benzo(b)fluoranthene	440 000	72 000	NA	0 5	2 5	349000	1010000	ug/kg
	CE49-008	2083695 019	751217 860	Bis(2-ethylhexyl)phthalate	110 000	74 000	NA	0 5	2 5	1970000	NA	ug/kg
	CE49-008	2083695 019	751217 860	Butylbenzylphthalate	110 000	68 000	NA	0 5	2 5	147000000	NA	ug/kg
	CE49-008	2083695 019	751217 860	Chromium	73 900	20 000	68 27	0 5	2 5	268	NA	mg/kg
	CE49-008	2083695 019	751217 860	Chrysene	540 000	36 000	NA	0 5	2 5	3490000	NA	ug/kg
	CE49-008	2083695 019	751217 860	Copper	132 000	4 000	38 21	0 5	2 5	40900	NA	mg/kg
	CE49-008	2083695 019	751217 860	Dibenz(a,h)anthracene	120 000	66 000	NA	0 5	2 5	3490	NA	ug/kg
	CE49-008	2083695 019	751217 860	Fluoranthene	770 000	41 000	NA	0 5	2 5	27200000	NA	ug/kg
	CE49-008	2083695 019	751217 860	Indeno(1,2,3-cd)pyrene	260 000	47 000	NA	0 5	2 5	34900	NA	ug/kg
	CE49-008	2083695 019	751217 860	Iron	42400 000	2190 000	41046 52	0 5	2 5	307000	NA	mg/kg
	CE49-008	**2083695 019**	**751217.860**	**Lead**	**26 000**	**0 220**	**24 97**	**0 5**	**2 5**	**1000**	**25 6**	**mg/kg**
	CE49-008	2083695 019	751217 860	Pyrene	910 000	59 000	NA	0 5	2 5	22100000	NA	ug/kg
	CE49-008	2083695 019	751217 860	Strontium	273 000	20 000	211 38	0 5	2 5	613000	NA	mg/kg
	CE49-008	2083695 019	751217 860	Zinc	260 000	9 000	139 1	0 5	2 5	307000	NA	mg/kg
	CE49-008	2083695 019	751217 860	Barium	638 000	98 000	289 38	11 0	13 0	26400	NA	mg/kg
	CE49-008	2083695 019	751217 860	Uranium-234	4 253	1 440	2 6	11 0	13 0	300	1800	pCi/g
	CE49-008	2083695 019	751217 860	Uranium-235	0 266	0 134	0 12	11 0	13 0	8	1900	pCi/g
	CE49-008	2083695 019	751217 860	Uranium-238	4 253	1 440	1 49	11 0	13 0	351	1600	pCi/g
	CE49-008	2083695 019	751217 860	Vanadium	150 000	31 000	88 49	11 0	13 0	7150	433	mg/kg
	CE49-009	2083708 276	751217 858	Barium	673 000	98 000	289 38	0 5	2 5	26400	NA	mg/kg
	CE49-009	2083708 276	751217 858	Copper	126 000	4 000	38 21	0 5	2 5	40900	NA	mg/kg
	CE49-009	**2083708 276**	**751217.858**	**Lead**	**33 900**	**7 000**	**24 97**	**0 5**	**2 5**	**1000**	**25 6**	**mg/kg**
	CE49-009	2083708 276	751217 858	Strontium	248 000	20 000	211 38	0 5	2 5	613000	NA	mg/kg
	CE49-009	2083708 276	751217 858	Uranium-235	0 287	0 147	0 12	0 5	2 5	8	1900	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE49-009	2083708 276	751217 858	Vanadium	123 000	31 000	88 49	0 5	2 5	7150	433	mg/kg
	CE49-009	2083708 276	751217 858	Zinc	191 000	9 000	139 1	0 5	2 5	307000	NA	mg/kg
	CE49-009	2083708 276	751217 858	Uranium-234	4 444	1 470	2 6	11 0	13 0	300	1800	pCi/g
	CE49-009	2083708 276	751217 858	Uranium-238	4 444	1 470	1 49	11 0	13 0	351	1600	pCi/g
	CG48-011	2084113 720	751032 738	Arsenic	20 20	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CG48-011	2084113 720	751032 738	Barium	764 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CG48-011	2084113 720	751032 738	Benzo(a)anthracene	110 00	42 00	NA	0 0	0 5	34900	800000	ug/kg
	CG48-011	2084113 720	751032 738	Benzo(a)pyrene	150 00	55 00	NA	0 0	0 5	3490	25700	ug/kg
	CG48-011	2084113 720	751032 738	Chromium	50 10	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CG48-011	2084113 720	751032 738	Chrysene	200 00	37 00	NA	0 0	0 5	3490000	NA	ug/kg
	CG48-011	2084113 720	751032 738	Copper	103 00	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CG48-011	2084113 720	751032 738	Indeno(1,2,3-cd)pyrene	51 00	48 00	NA	0 0	0 5	34900	NA	ug/kg
	CG48-011	2084113 720	751032 738	Iron	42300 00	2190 00	18037 000	0 0	0 5	307000	NA	mg/kg
	CG48-011	2084113 720	751032 738	Manganese	387 00	158 00	365 080	0 0	0 5	3480	NA	mg/kg
	CG48-011	2084113 720	751032 738	Nickel	61 40	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CG48-011	2084113 720	751032 738	Strontium	170 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg
	CG48-011	2084113 720	751032 738	Uranium-234	3 40	1 64	2 000	0 0	0 5	300	1800	pCi/g
	CG48-011	2084113 720	751032 738	Uranium-238	3 40	1 64	2 000	0 0	0 5	351	1600	pCi/g
	CG48-011	2084113 720	751032 738	Vanadium	136 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CG48-011	2084113 720	751032 738	Zinc	90 50	9 00	73 760	0 0	0 5	307000	NA	mg/kg
	CG48-012	2084114 856	751013 428	Barium	675 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CG48-012	2084114 856	751013 428	Benzo(a)anthracene	230 00	48 00	NA	0 0	0 5	34900	800000	ug/kg
	CG48-012	2084114 856	751013 428	Benzo(a)pyrene	320 00	63 00	NA	0 0	0 5	3490	25700	ug/kg
	CG48-012	2084114 856	751013 428	Benzyl Alcohol	360 00	100 00	NA	0 0	0 5	307000000	NA	ug/kg
	CG48-012	2084114 856	751013 428	Chromium	40 50	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CG48-012	2084114 856	751013 428	Chrysene	450 00	42 00	NA	0 0	0 5	3490000	NA	ug/kg
	CG48-012	2084114 856	751013 428	Copper	81 60	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CG48-012	2084114 856	751013 428	Iron	24100 00	2190 00	18037 000	0 0	0 5	307000	NA	mg/kg
	CG48-012	2084114 856	751013 428	Nickel	38 30	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CG48-012	2084114 856	751013 428	Strontium	161 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CG48-012	2084114 856	751013 428	Uranium-235	0 10	0 06	0 094	0 0	0 5	8	1900	pCi/g
	CG48-012	2084114 856	751013 428	Vanadium	120 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CG48-012	2084114 856	751013 428	Xylene	17 00	12 00	NA	0 0	0 5	1000000000	NA	ug/kg
	CG48-012	2084114 856	751013 428	Zinc	103 00	9 00	73 760	0 0	0 5	307000	NA	mg/kg
	CG48-013	2083979 689	751086 123	Arsenic	15 40	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CG48-013	2083979 689	751086 123	Barium	664 00	98 00	141 260	0	0 5	26400	NA	mg/kg
	CG48-013	2083979 689	751086 123	Benzo(a)anthracene	120 00	46 00	NA	0 0	0 5	34900	800000	ug/kg
	CG48-013	2083979 689	751086 123	Benzo(a)pyrene	140 00	61 00	NA	0 0	0 5	3490	25700	ug/kg
	CG48-013	2083979 689	751086 123	Benzo(b)fluoranthene	100 00	75 00	NA	0 0	0 5	34900	1010000	ug/kg
	CG48-013	2083979 689	751086 123	Benzo(k)fluoranthene	120 00	81 00	NA	0 0	0 5	349000	1010000	ug/kg
	CG48-013	2083979 689	751086 123	Chromium	30 20	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CG48-013	2083979 689	751086 123	Chrysene	140 00	40 00	NA	0 0	0 5	3490000	NA	ug/kg
	CG48-013	2083979 689	751086 123	Copper	63 70	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CG48-013	2083979 689	751086 123	Fluoranthene	290 00	46 00	NA	0 0	0 5	27200000	NA	ug/kg
	CG48-013	2083979 689	751086 123	Indeno(1,2,3-cd)pyrene	86 00	52 00	NA	0 0	0 5	34900	NA	ug/kg
	CG48-013	2083979 689	751086 123	Iron	34800 00	2190 00	18037 000	0 0	0 5	307000	NA	mg/kg
	CG48-013	2083979 689	751086 123	Nickel	42 70	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CG48-013	2083979 689	751086 123	Pyrene	280 00	66 00	NA	0 0	0 5	22100000	NA	ug/kg
	CG48-013	2083979 689	751086 123	Strontium	173 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg
	CG48-013	2083979 689	751086 123	Uranium-234	5 30	1 68	2 3	0 0	0 5	300	1800	pCi/g
	CG48-013	2083979 689	751086 123	Uranium-238	5 30	1 68	2 000	0 0	0 5	351	1600	pCi/g
	CG48-013	2083979 689	751086 123	Vanadium	115 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CG48-013	2083979 689	751086 123	Zinc	111 00	9 00	73 760	0 0	0 5	307000	NA	mg/kg
Tanks 14 and 16	CH48-017	2084157 880	751040 548	Americium-241	0 410	0 152	0 02	5 5	7 5	76	1900	pCi/g
	CH48-017	2084157 880	751040 540	Barium	590 000	98 000	289 38	5 5	7 5	26400	NA	mg/kg
	CH48-017	2084157 880	751040 548	Copper	101 000	4 000	38 21	5 5	7 5	40900	NA	mg/kg
	CH48-017	2084157 880	751040 548	Plutonium-239/240	0 603	0 021	0 02	5 5	7 5	50/116	3800	pCi/g
	CH48-017	2084157 880	751040 548	Vanadium	138 000	31 000	88 49	5 5	7 5	7150	433	mg/kg
	CH48-017	2084157 880	751040 548	Zinc	342 000	9 000	139 1	5 5	7 5	307000	NA	mg/kg
	CH48-018	2084150 627	751008 538	Americium-241	1 020	0 299	0 02	12 5	14 5	76	1900	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CH48-018	2084150 627	751008 538	Barium	571 000	98 000	289 38	12 5	14 5	26400	NA	mg/kg
	CH48-018	2084150 627	751008 538	Plutonium-239/240	2 060	0 067	0 02	12 5	14 5	50/116	3800	pCi/g
	CH48-018	2084150 627	751008 538	Vanadium	105 000	31 000	88 49	12 5	14 5	7150	433	mg/kg
	CH48-019	2084166 664	751017 524	Barium	534 000	98 000	289 38	11 5	13 5	26400	NA	mg/kg
	CH48-019	2084166 664	751017 524	Copper	123 000	4 000	38 21	11 5	13 5	40900	NA	mg/kg
	CH48-019	2084166 664	751017 524	Uranium-234	4 111	2 780	2 6	11 5	13 5	300	1800	pCi/g
	CH48-019	2084166 664	751017 524	Uranium-235	0 228	0 125	0 12	11 5	13 5	8	1900	pCi/g
	CH48-019	2084166 664	751017 524	Uranium-238	4 111	2 780	1 49	11 5	13 5	351	1600	pCi/g
	CH48-019	2084166 664	751017 524	Vanadium	146 000	31 000	88 49	11 5	13 5	7150	433	mg/kg
IHSS 700 125 – Abandoned Sump Near Building 774 Unit 55 13 T-40 (All depths start below building slab)	CG48-006	2084095 604	751097 309	Arsenic	13 90	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CG48-006	2084095 604	751097 309	Barium	564 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CG48-006	2084095 604	751097 309	Copper	114 00	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CG48-006	2084095 604	751097 309	Uranium-234	3 78	1 51	2 000	0 0	0 5	300	1800	pCi/g
	CG48-006	2084095 604	751097 309	Uranium-238	3 78	1 51	2 000	0 0	0 5	351	1600	pCi/g
	CG48-006	2084095 604	751097 309	Vanadium	202 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CG48-007	2084126 123	751097 231	Americium-241	1 35	0 60	0 023	0 0	0 5	76	1900	pCi/g
	CG48-007	2084126 123	751097 231	Arsenic	13 70	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CG48-007	2084126 123	751097.231	Barium	1700 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CG48-007	2084126 123	751097 231	Copper	230 00	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CG48-007	2084126 123	751097 231	Nickel	71 90	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CG48-007	2084126 123	751097 231	Plutonium-239/240	14 17	0 60	0 066	0 0	0 5	50/116	3800	pCi/g
	CG48-007	2084126 123	751097 231	Uranium-234	4 67	1 72	2 3	0 0	0 5	300	1800	pCi/g
	CG48-007	2084126 123	751097 231	Uranium-238	4 67	1 72	2 000	0 0	0 5	351	1600	pCi/g
	CG48-007	2084126 123	751097 231	Vanadium	156 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CG48-007	2084126 123	751097 231	Zinc	189 00	9 00	73 760	0 0	0 5	307000	NA	mg/kg
	CG48-008	**2084126 045**	**751068 741**	**Americium-241**	**1220 00**	**70.30**	**0 023**	**0 0**	**0 5**	**76**	**1900**	**pCi/g**
	CG48-008	2084126 045	751068 741	Barium	541 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CG48-008	2084126 045	751068 741	Copper	85 90	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CG48-008	**2084126 045**	**751068 741**	**Plutonium-239/240**	**1690 00**	**66 00**	**0 066**	**0 0**	**0 5**	**50**	**3800**	**pCi/g**
	CG48-008	2084126 045	751068 741	Uranium-234	2 94	0 42	2 253	0 0	0 5	300	1800	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CG48-008	2084126 045	751068 741	Uranium-238	2 94	0 42	2 253	0 0	0 5	351	1600	pCi/g
	CG48-008	2084126 045	751068 741	Vanadium	174 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CG48-009	**2084095 838**	**751069 053**	**Americium-241**	**116 40**	**1 32**	**0 023**	**0 0**	**0 5**	**76**	**1900**	**pCi/g**
	CG48-009	2084095 838	751069 053	Barium	488 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CG48-009	2084095 838	751069 053	Chromium	35 60	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CG48-009	2084095 838	751069 053	Copper	32 90	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CG48-009	2084095 838	751069 053	Iron	20900 00	2190 00	18037 000	0 0	0 5	307000	NA	mg/kg
	CG48-009	2084095 838	751069 053	Nickel	32 50	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CG48-009	**2084095 838**	**751069 053**	**Plutonium-239/240**	**943 75**	**1 32**	**0 066**	**0 0**	**0 5**	**50/116**	**3800**	**pCi/g**
	CG48-009	2084095 838	751069 053	Strontium	103 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg
	CG48-009	2084095 838	751069 053	Uranium-234	3 02	1 43	2 3	0 0	0 5	300	1800	pCi/g
	CG48-009	2084095 838	751069 053	Uranium-235	0 34	0 18	0 094	0 0	0 5	8	1900	pCi/g
	CG48-009	2084095 838	751069 053	Uranium-238	3 02	1 43	2 000	0 0	0 5	351	1600	pCi/g
	CG48-009	2084095 838	751069 053	Vanadium	96 90	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CG48-009	2084095 838	751069 053	Zinc	91 20	9 00	73 760	0 0	0 5	307000	NA	mg/kg
	CG48-010	2084110 200	751082 557	Americium-241	1 29	0 52	0 023	0 0	0 5	76	1900	pCi/g
	CG48-010	2084110 200	751082 557	Arsenic	14 50	5 00	10 090	0 0	0 5	22 2	21 6	mg/kg
	CG48-010	2084110 200	751082 557	Barium	583 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
	CG48-010	2084110 200	751082 557	Chromium	31 80	20 00	16 990	0 0	0 5	268	NA	mg/kg
	CG48-010	2084110 200	751082 557	Copper	130 00	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CG48-010	2084110 200	751082 557	Iron	23900 00	2190 00	18037 000	0 0	0 5	307000	NA	mg/kg
	CG48-010	2084110 200	751082 557	Nickel	46 50	12 00	14 910	0 0	0 5	20400	NA	mg/kg
	CG48-010	2084110 200	751082 557	Plutonium-239/240	13 66	0 52	0 066	0 0	0 5	50/116	3800	pCi/g
	CG48-010	2084110 200	751082 557	Strontium	117 00	20 00	48 940	0 0	0 5	613000	NA	mg/kg
	CG48-010	2084110 200	751082 557	Uranium-234	5 20	1 49	2 3	0 0	0 5	300	1800	pCi/g
	CG48-010	2084110 200	751082 557	Uranium-235	0 28	0 12	0 094	0 0	0 5	8	1900	pCi/g
	CG48-010	2084110 200	751082 557	Uranium-238	5 20	1 49	2 000	0 0	0 5	351	1600	pCi/g
	CG48-010	2084110 200	751082 557	Vanadium	211 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CG48-010	2084110 200	751082 557	Zinc	159 00	9 00	73 760	0 0	0 5	307000	NA	mg/kg
	CE48-024	2083613 420	751136 354	Uranium-234	3 013	1 320	2 6	4 5	6 5	300	1800	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE48-024	2083613 420	751136 354	Uranium-235	0 134	0 088	0 12	4 5	6 5	8	1900	pCi/g
	CE48-024	2083613 420	751136 354	Uranium-238	3 013	1 320	1 49	4 5	6 5	351	1600	pCi/g
	CE49-000	2083697 462	751185 699	Barium	548 000	98 000	289 38	4 5	6 5	26400	NA	mg/kg
	CE49-000	2083697 462	751185 699	Copper	134 000	4 000	38 21	4 5	6 5	40900	NA	mg/kg
	CE49-000	2083697 462	751185 699	Uranium-234	4 204	1 600	2 6	4 5	6 5	300	1800	pCi/g
	CE49-000	2083697 462	751185 699	Uranium-235	0 404	0 182	0 12	4 5	6 5	8	1900	pCi/g
	CE49-000	2083697 462	751185 699	Uranium-238	4 204	1 600	1 49	4 5	6 5	351	1600	pCi/g
	CE49-000	2083697 462	751185 699	Vanadium	149 000	31 000	88 49	4 5	6 5	7150	433	mg/kg
	CF48-018	2083921 848	751127 211	Uranium-234	3 323	1 760	2 6	1 5	3 5	300	1800	pCi/g
	CF48-018	2083921 848	751127 211	Uranium-235	0 231	0 125	0 12	1 5	3 5	8	1900	pCi/g
	CF48-018	2083921 848	751127 211	Uranium-238	3 323	1 760	1 49	1 5	3 5	351	1600	pCi/g
	CF49-017	2083781 676	751190 430	Americium-241	0 094	0 077	0 02	4 5	6 5	76	1900	pCi/g
	CG47-002	2084093 865	750889 982	Arsenic	15 500	5 000	13 14	4 5	6 5	22 2	21 6	mg/kg
	CG47-002	2084093 865	750889 982	Barium	613 000	98 000	289 38	4 5	6 5	26400	NA	mg/kg
	CG47-002	2084093 865	750889 982	Copper	62 000	4 000	38 21	4 5	6 5	40900	NA	mg/kg
	CG47-002	2084093 865	750889 982	Uranium-234	4 424	1 240	2 6	4 5	6 5	300	1800	pCi/g
	CG47-002	2084093 865	750889 982	Uranium-235	0 196	0 139	0 12	4 5	6 5	8	1900	pCi/g
	CG47-002	2084093 865	750889 982	Uranium-238	4 424	1 240	1 49	4 5	6 5	351	1600	pCi/g
	CG47-002	2084093 865	750889 982	Vanadium	139 000	31 000	88 49	4 5	6 5	7150	433	mg/kg
	CG47-003	2084102 832	750900 030	Americium-241	0 356	0 224	0 02	4 5	6 5	76	1900	pCi/g
	CG47-003	2084102 832	750900 030	Arsenic	20 000	5 000	13 14	4 5	6 5	22 2	21 6	mg/kg
	CG47-003	2084102 832	750900 030	Barium	520 000	98 000	289 38	4 5	6 5	26400	NA	mg/kg
	CG47-003	2084102 832	750900 030	Copper	102 000	4 000	38 21	4 5	6 5	40900	NA	mg/kg
	CG47-003	2084102 832	750900 030	Iron	41900 000	2190 000	41046 52	4 5	6 5	307000	NA	mg/kg
	CG47-003	2084102 832	750900 030	Plutonium-239/240	0 142	0 019	0 02	4 5	6 5	50/116	3800	pCi/g
	CG47-003	2084102 832	750900 030	Uranium-234	2 473	1 540	2 6	4 5	6 5	300	1800	pCi/g
	CG47-003	2084102 832	750900 030	Uranium-235	0 260	0 241	0 12	4 5	6 5	8	1900	pCi/g
	CG47-003	2084102 832	750900 030	Uranium-238	2 473	1 540	1 49	4 5	6 5	351	1600	pCi/g
	CG47-003	2084102 832	750900 030	Vanadium	134 000	0 160	88 49	4 5	6 5	7150	433	mg/kg
	CG48-004	2084011 530	751137 132	Barium	603 000	98 000	289 38	2 5	4 5	26400	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CG48-004	2084011 530	751137 132	Copper	83 400	4 000	38 21	2 5	4 5	40900	NA	mg/kg
	CG48-004	2084011 530	751137 132	Uranium-234	2 678	1 300	2 6	2 5	4 5	300	1800	pCi/g
	CG48-004	2084011 530	751137 132	Uranium-238	2 678	1 300	1 49	2 5	4 5	351	1600	pCi/g
	CG48-004	2084011 530	751137 132	Vanadium	165 000	31 000	88 49	2 5	4 5	7150	433	mg/kg
	CG48-004	2084011 530	751137 132	Zinc	146 000	9 000	139 1	2 5	4 5	307000	NA	mg/kg
	CG48-005	2084171 654	751067 076	Aroclor-1254	42 000	5 200	NA	2 5	4 5	12400	371000	ug/kg
	CG48-005	2084171 654	751067 076	Barium	696 000	98 000	289 38	2 5	4 5	26400	NA	mg/kg
	CG48-005	2084171 654	751067 076	Bis(2-ethylhexyl)phthalate	240 000	77 000	NA	2 5	4 5	1970000	NA	ug/kg
	CG48-005	2084171 654	751067 076	Chrysene	69 000	38 000	NA	2 5	4 5	3490000	NA	ug/kg
	CG48-005	2084171 654	751067 076	Copper	207 000	4 000	38 21	2 5	4 5	40900	NA	mg/kg
	CG48-005	2084171 654	751067 076	Fluoranthene	150 000	43 000	NA	2 5	4 5	27200000	NA	ug/kg
	CG48-005	2084171 654	751067 076	Pyrene	150 000	62 000	NA	2 5	4 5	22100000	NA	ug/kg
	CG48-005	2084171 654	751067 076	Strontium	286 000	20 000	211 38	2 5	4 5	613000	NA	mg/kg
	CG48-005	2084171 654	751067 076	Uranium-234	5 428	1 960	2 6	2 5	4 5	300	1800	pCi/g
	CG48-005	2084171 654	751067 076	Uranium-235	0 261	0 133	0 12	2 5	4 5	8	1900	pCi/g
	CG48-005	2084171 654	751067 076	Uranium-238	5 428	1 960	1 49	2 5	4 5	351	1600	pCi/g
	CG48-005	2084171 654	751067 076	Vanadium	118 000	31 000	88 49	2 5	4 5	7150	433	mg/kg
	CG48-005	2084171 654	751067 076	Zinc	308 000	9 000	139 1	2 5	4 5	307000	NA	mg/kg
	CH48-003	2084182 715	751049 072	Arsenic	15 500	5 000	13 14	4 5	6 5	22 2	21 6	mg/kg
	CH48-003	2084182 715	751049 072	Barium	545 000	98 000	289 38	4 5	6 5	26400	NA	mg/kg
	CH48-003	2084182 715	751049 072	Copper	94 100	4 000	38 21	4 5	6 5	40900	NA	mg/kg
	CH48-003	2084182 715	751049 072	Uranium-234	4 018	1 610	2 6	4 5	6 5	300	1800	pCi/g
	CH48-003	2084182 715	751049 072	Uranium-235	0 306	0 129	0 12	4 5	6 5	8	1900	pCi/g
	CH48-003	2084182 715	751049 072	Uranium-238	4 018	1 610	1 49	4 5	6 5	351	1600	pCi/g
	CH48-003	2084182 715	751049 072	Vanadium	153 000	31 000	88 49	4 5	6 5	7150	433	mg/kg
	CH48-004	**2084184 407**	**750994.441**	**Arsenic**	**24 800**	**5 000**	**13 14**	**4 5**	**6 5**	**22 2**	**21 6**	**mg/kg**
	CH48-004	2084184 407	750994 441	Barium	401 000	98 000	289 38	4 5	6 5	26400	NA	mg/kg
	CH48-004	2084184 407	750994 441	Copper	198 000	4 000	38 21	4 5	6 5	40900	NA	mg/kg
	CH48-004	2084184 407	750994 441	Uranium-234	2 309	1 080	1 49	4 5	6 5	300	1800	pCi/g
	CH48-004	2084184 407	750994 441	Uranium-238	2 309	1 080	1 49	4 5	6 5	351	1600	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CH48-004	2084184 407	750994 441	Vanadium	103 000	31 000	88 49	4 5	6 5	7150	433	mg/kg
Buildings 771 and 776 Tunnel	CE47-022	2083696 625	750928.227	Americium-241	0 04	0 03	0 023	0 0	0 5	76	1900	pCi/g
	CE47-022	2083696 625	750928 227	Barium	878 00	98 00	141 260	0 0	0 5	26400	NA	mg/kg
(All depths start below building slab)	CE47-022	2083696 625	750928 227	bis(2-Ethylhexyl)phthalate	150 00	85 00	NA	0 0	0 5	1970000	NA	ug/kg
	CE47-022	2083696 625	750928 227	Cadmium	10 10	3 00	1 612	0 0	0 5	962	NA	mg/kg
	CE47-022	2083696 625	750928 227	Copper	175 00	4 00	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-022	2083696 625	750928 227	Uranium-235	0 63	0 19	0 094	0 0	0 5	8	1900	pCi/g
	CE47-022	2083696 625	750928.227	Uranium-238	3 56	0 19	2 000	0 0	0 5	351	1600	pCi/g
	CE47-022	2083696 625	750928 227	Vanadium	105 00	31 00	45 590	0 0	0 5	7150	433	mg/kg
	CE47-022	2083696 625	750928 227	Xylene	40 00	12 00	NA	0 0	0 5	1000000000	NA	ug/kg
	CE47-023	2083725 533	750766 477	Americium-241	0 203	0 096	0 023	0 0	0 5	76	1900	pCi/g
	CE47-023	2083725 533	750766 477	Barium	520 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-023	2083725 533	750766 477	Chloroform	9 800	6 500	NA	0 0	0 5	19200	101000	ug/kg
	CE47-023	2083725 533	750766 477	Copper	134 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-023	2083725 533	750766 477	Vanadium	235 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE47-023	2083725 533	750766 477	Xylene	25 000	13 000	NA	0 0	0 5	1000000000	NA	ug/kg
	CE47-023	2083725 533	750766 477	Zinc	152 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE46-001	2083707 065	750662 186	4-Methyl-2-pentanone	73 000	61 000	NA	0 0	0 5	16400000	NA	ug/kg
	CE46-001	2083707 065	750662 186	Barium	350 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE46-001	2083707 065	750662 186	Chromium	35 700	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE46-001	2083707 065	750662 186	Copper	62 300	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE46-001	2083707 065	750662 186	Nickel	23 000	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE46-001	2083707 065	750662 186	Strontium	99 600	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE46-001	2083707 065	750662 186	Uranium-234	3 300	1 250	2 3	0 0	0 5	300	1800	pCi/g
	CE46-001	2083707 065	750662 186	Uranium-235	0 170	0 125	0 094	0 0	0 5	8	1900	pCi/g
	CE46-001	2083707 065	750662 186	Uranium-238	3 300	1 250	2 000	0 0	0 5	351	1600	pCi/g
	CE46-001	2083707 065	750662 186	Vanadium	166 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE46-001	2083707 065	750662 186	Xylene	14 000	12 000	NA	0 0	0 5	1000000000	NA	ug/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
700-150 2(N) - Radioactive Site West of Buildings 771/776	CD48-000	2083529 390	751000 938	Arsenic	12 100	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CD48-000	2083529 390	751000 938	Barium	800 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CD48-000	2083529 390	751000 938	Chromium	48 600	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CD48-000	2083529 390	751000 938	Copper	154 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CD48-000	2083529 390	751000 938	Iron	32700 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CD48-000	2083529 390	751000 938	Manganese	477 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CD48-000	2083529 390	751000 938	Nickel	44 800	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CD48-000	2083529 390	751000 938	Strontium	196 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CD48-000	2083529 390	751000 938	Uranium-234	2 597	1 040	2 3	0 0	0 5	300	1800	pCi/g
	CD48-000	2083529 390	751000 938	Uranium-238	2 597	1 040	2 000	0 0	0 5	351	1600	pCi/g
	CD48-000	2083529 390	751000 938	Vanadium	109 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CD48-000	2083529 390	751000 938	Zinc	116 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CD48-001	2083535 820	750965 504	Barium	651 000	98 000	141.260	0 0	0 5	26400	NA	mg/kg
	CD48-001	2083535 820	750965 504	Benzo(a)anthracene	64 000	44 000	NA	0 0	0 5	34900	800000	ug/kg
	CD48-001	2083535 820	750965 504	Chromium	52 400	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CD48-001	2083535 820	750965 504	Chrysene	64 000	38 000	NA	0 0	0 5	3490000	NA	ug/kg
	CD48-001	2083535 820	750965 504	Copper	151 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CD48-001	2083535 820	750965 504	Fluoranthene	140 000	44 000	NA	0 0	0 5	27200000	NA	ug/kg
	CD48-001	2083535.820	750965 504	Iron	28800 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CD48-001	2083535 820	750965 504	Nickel	43 000	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CD48-001	2083535 820	750965 504	Pyrene	150 000	63 000	NA	0 0	0 5	22100000	NA	ug/kg
	CD48-001	2083535 820	750965 504	Strontium	141 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CD48-001	2083535 820	750965 504	Uranium-234	3 724	1 460	2 3	0 0	0 5	300	1800	pCi/g
	CD48-001	2083535 820	750965 504	Uranium-235	0 254	0 123	0 094	0 0	0 5	8	1900	pCi/g
	CD48-001	2083535 820	750965 504	Uranium-238	3 724	1 460	2 000	0 0	0 5	351	1600	pCi/g
	CD48-001	2083535 820	750965 504	Vanadium	156 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CD48-001	2083535 820	750965 504	Zinc	161 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE48-008	2083690 363	751144 198	Barium	787 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE48-008	2083690 363	751144 198	Chromium	48 800	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE48-008	2083690 363	751144 198	Copper	142 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-008	2083690 363	751144 198	Iron	26800 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE48-008	2083690 363	751144 198	Nickel	35 700	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE48-008	2083690 363	751144 198	Strontium	152 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE48-008	2083690 363	751144 198	Uranium-235	0 312	0 167	0 094	0 0	0 5	8	1900	pCi/g
	CE48-008	2083690 363	751144 198	Vanadium	199 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE48-008	2083690 363	751144 198	Zinc	130 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE48-009	2083641 800	751129 707	Arsenic	12 100	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE48-009	2083641 800	751129 707	Barium	811 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-009	2083641 800	751129 707	Copper	123 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-009	2083641 800	751129 707	Iron	27300 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE48-009	2083641 800	751129 707	Nickel	36 400	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE48-009	2083641 800	751129 707	Strontium	281 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE48-009	2083641 800	751129 707	Uranium-234	2 112	1 310	2 000	0 0	0 5	300	1800	pCi/g
	CE48-009	2083641 800	751129 707	Uranium-235	0 198	0 086	0 094	0 0	0 5	8	1900	pCi/g
	CE48-009	2083641 800	751129 707	Uranium-238	2 112	1 310	2 000	0 0	0 5	351	1600	pCi/g
	CE48-009	2083641 800	751129 707	Zinc	84 200	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE48-010	2083609 000	751140 562	Arsenic	10 900	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE48-010	2083609 000	751140 562	Barium	487 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-010	2083609 000	751140 562	Chromium	39 300	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE48-010	2083609 000	751140 562	Copper	110 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-010	2083609 000	751140 562	Iron	30200 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE48-010	2083609 000	751140 562	Manganese	484 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE48-010	2083609 000	751140 562	Nickel	45 600	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE48-010	2083609 000	751140 562	Strontium	223 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE48-010	2083609 000	751140 562	Uranium-234	3 997	1 500	2 3	0 0	0 5	300	1800	pCi/g
	CE48-010	2083609 000	751140 562	Uranium-235	0 214	0 120	0 094	0 0	0 5	8	1900	pCi/g
	CE48-010	2083609 000	751140 562	Uranium-238	3 997	1 500	2 000	0 0	0 5	351	1600	pCi/g
	CE48-010	2083609 000	751140 562	Vanadium	110 000	31 000	45 590	0 0	0 5	7150	433	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE48-010	2083609 000	751140 562	Zinc	450 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE48-011	2083505 400	751106 199	Arsenic	13 100	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE48-011	2083505 400	751106 199	Barium	316 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-011	2083505 400	751106 199	Benzo(a)anthracene	79 000	44 000	NA	0 0	0 5	34900	800000	ug/kg
	CE48-011	2083505 400	751106 199	Benzo(a)pyrene	91 000	58 000	NA	0 0	0 5	3490	25700	ug/kg
	CE48-011	2083505 400	751106 199	Benzo(b)fluoranthene	78 000	71 000	NA	0 0	0 5	34900	1010000	ug/kg
	CE48-011	2083505 400	751106 199	Benzo(k)fluoranthene	78 000	77 000	NA	0 0	0 5	349000	1010000	ug/kg
	CE48-011	2083505 400	751106 199	bis(2-Ethylhexyl)phthalate	290 000	79 000	NA	0 0	0 5	1970000	NA	ug/kg
	CE48-011	2083505 400	751106 199	Chromium	90 500	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE48-011	2083505 400	751106 199	Chrysene	98 000	39 000	NA	0 0	0 5	3490000	NA	ug/kg
	CE48-011	2083505 400	751106 199	Copper	108 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-011	2083505 400	751106 199	Fluoranthene	170 000	44 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE48-011	2083505 400	751106 199	Iron	32600 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE48-011	**2083505 400**	**751106 199**	**Lead**	**108 000**	**7 000**	**54 620**	**0 0**	**0 5**	**1000**	**25 6**	**mg/kg**
	CE48-011	2083505 400	751106 199	Manganese	498 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE48-011	2083505 400	751106 199	Nickel	58 600	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE48-011	2083505 400	751106 199	Pyrene	160 000	64 000	NA	0 0	0 5	22100000	NA	ug/kg
	CE48-011	2083505 400	751106 199	Strontium	196 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE48-011	2083505 400	751106 199	Uranium-234	2 260	1 760	2 3	0 0	0 5	300	1800	pCi/g
	CE48-011	2083505 400	751106 199	Uranium-235	0 216	0 148	0 094	0 0	0 5	8	1900	pCi/g
	CE48-011	2083505 400	751106 199	Uranium-238	2 260	1 760	2 000	0 0	0 5	351	1600	pCi/g
	CE48-011	2083505 400	751106 199	Vanadium	94 800	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE48-011	2083505 400	751106 199	Zinc	253 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE48-012	2083630 960	750964 572	2-Methylnaphthalene	910 000	38 000	NA	0 0	0 5	20400000	NA	ug/kg
	CE48-012	2083630 960	750964 572	Acenaphthene	4600 000	48 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE48-012	2083630 960	750964 572	Arsenic	12 200	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE48-012	2083630 960	750964 572	Barium	192 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-012	2083630 960	750964 572	Chromium	49 500	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE48-012	2083630 960	750964 572	Copper	67 800	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-012	2083630 960	750964 572	Dibenzofuran	2700 000	54 000	NA	0 0	0 5	2950000	NA	ug/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE48-012	2083630 960	750964 572	Fluorene	3600 000	58 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE48-012	2083630 960	750964 572	Iron	31100 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE48-012	2083630 960	750964 572	Manganese	368 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE48-012	2083630 960	750964 572	Naphthalene	1000 000	45 000	NA	0 0	0 5	3090000	NA	ug/kg
	CE48-012	2083630 960	750964 572	Nickel	44 400	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE48-012	2083630 960	750964 572	Strontium	134 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE48-012	2083630 960	750964 572	Uranium-234	4 243	1 190	2 3	0 0	0 5	300	1800	pCi/g
	CE48-012	2083630 960	750964 572	Uranium-235	0 311	0 116	0 094	0 0	0 5	8	1900	pCi/g
	CE48-012	2083630 960	750964 572	Uranium-238	4 243	1 190	2 000	0 0	0 5	351	1600	pCi/g
	CE48-012	2083630 960	750964 572	Vanadium	145 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE48-012	2083630 960	750964 572	Zinc	125 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE47-011	2083637 740	750929 184	Acenaphthene	57 000	55 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE47-011	2083637 740	750929 184	Aluminum	27000 000	2 500	16902 000	0 0	0 5	228000	NA	mg/kg
	CE47-011	2083637 740	750929 184	Arsenic	11 000	0 450	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE47-011	2083637 740	750929 184	Barium	907 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-011	2083637 740	750929 184	Benzo(a)anthracene	150 000	48 000	NA	0 0	0 5	34900	800000	ug/kg
	CE47-011	2083637 740	750929 184	Benzo(a)pyrene	160 000	63 000	NA	0 0	0 5	3490	25700	ug/kg
	CE47-011	2083637 740	750929 184	Benzo(b)fluoranthene	120 000	77 000	NA	0 0	0 5	34900	1010000	ug/kg
	CE47-011	2083637 740	750929 184	Benzo(k)fluoranthene	170 000	83 000	NA	0 0	0 5	349000	1010000	ug/kg
	CE47-011	2083637 740	750929 184	Beryllium	1 300	0 041	0 966	0 0	0 5	921	2 15	mg/kg
	CE47-011	2083637 740	750929 184	Chromium	46 200	0 087	16 990	0 0	0 5	268	NA	mg/kg
	CE47-011	2083637 740	750929 184	Chrysene	220 000	42 000	NA	0 0	0 5	3490000	NA	ug/kg
	CE47-011	2083637 740	750929 184	Copper	63 300	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-011	2083637 740	750929 184	Fluoranthene	380 000	48 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE47-011	2083637 740	750929 184	Indeno(1,2,3-cd)pyrene	94 000	54 000	NA	0 0	0 5	34900	NA	ug/kg
	CE47-011	2083637 740	750929 184	Iron	33600 000	1 900	18037 000	0 0	0 5	307000	NA	mg/kg
	CE47-011	2083637 740	750929 184	Lithium	14 000	0 130	11 550	0 0	0 5	20400	NA	mg/kg
	CE47-011	2083637 740	750929 184	Nickel	44 100	0 220	14 910	0 0	0 5	20400	NA	mg/kg
	CE47-011	2083637 740	750929 184	Pyrene	390 000	69 000	NA	0 0	0 5	22100000	NA	ug/kg
	CE47-011	2083637 740	750929 184	Selenium	1 600	0 600	1 224	0 0	0 5	5110	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE47-011	2083637 740	750929 184	Strontium	137 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE47-011	2083637 740	750929 184	Uranium-234	3 771	1 460	2 3	0 0	0 5	300	1800	pCi/g
	CE47-011	2083637 740	750929 184	Uranium-235	0 304	0 138	0 094	0 0	0 5	8	1900	pCi/g
	CE47-011	2083637 740	750929 184	Uranium-238	3 771	1 460	2 000	0 0	0 5	351	1600	pCi/g
	CE47-011	2083637 740	750929 184	Vanadium	157 000	0 170	45 590	0 0	0 5	7150	433	mg/kg
	CE47-011	2083637 740	750929 184	Zinc	109 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE47-018	2083542 170	750930 086	Acenaphthene	49 000	48 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE47-018	2083542 170	750930 086	Anthracene	98 000	70 000	NA	0 0	0 5	204000000	NA	ug/kg
	CE47-018	2083542 170	750930 086	Barium	702 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-018	2083542 170	750930 086	Benzo(a)anthracene	480 000	42 000	NA	0 0	0 5	34900	800000	ug/kg
	CE47-018	2083542 170	750930 086	Benzo(a)pyrene	560 000	55 000	NA	0 0	0 5	3490	25700	ug/kg
	CE47-018	2083542 170	750930 086	Benzo(b)fluoranthene	530 000	68 000	NA	0 0	0 5	34900	1010000	ug/kg
	CE47-018	2083542 170	750930 086	Benzo(k)fluoranthene	480 000	73 000	NA	0 0	0 5	349000	1010000	ug/kg
	CE47-018	2083542 170	750930 086	bis(2-Ethylhexyl)phthalate	160 000	75 000	NA	0 0	0 5	1970000	NA	ug/kg
	CE47-018	2083542 170	750930 086	Chromium	42 100	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE47-018	2083542 170	750930 086	Chrysene	600 000	36 000	NA	0 0	0 5	3490000	NA	ug/kg
	CE47-018	2083542 170	750930 086	Copper	77 100	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-018	2083542 170	750930 086	Dibenz(a,h)anthracene	120 000	67 000	NA	0 0	0 5	3490	NA	ug/kg
	CE47-018	2083542 170	750930 086	Fluoranthene	1100 000	42 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE47-018	2083542 170	750930 086	Indeno(1,2,3-cd)pyrene	340 000	47 000	NA	0 0	0 5	34900	NA	ug/kg
	CE47-018	2083542 170	750930 086	Iron	28600 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE47-018	2083542 170	750930 086	Manganese	505 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE47-018	2083542 170	750930 086	Nickel	33 100	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE47-018	2083542 170	750930 086	Pyrene	820 000	60 000	NA	0 0	0 5	22100000	NA	ug/kg
	CE47-018	2083542 170	750930 086	Strontium	160 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE47-018	2083542 170	750930 086	Uranium-234	3 471	1 430	2 3	0 0	0 5	300	1800	pCi/g
	CE47-018	2083542 170	750930 086	Uranium-235	0 217	0 121	0 094	0 0	0 5	8	1900	pCi/g
	CE47-018	2083542 170	750930 086	Uranium-238	3 471	1 430	2 000	0 0	0 5	351	1600	pCi/g
	CE47-018	2083542 170	750930 086	Vanadium	79 800	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE47-018	2083542 170	750930 086	Zinc	309 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE47-019	2083548 620	750894 757	Arsenic	18 200	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE47-019	2083548 620	750894 757	Barium	473 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-019	2083548 620	750894 757	Benzo(a)anthracene	56 000	42 000	NA	0 0	0 5	34900	800000	ug/kg
	CE47-019	2083548 620	750894 757	Benzo(a)pyrene	70 000	55 000	NA	0 0	0 5	3490	25700	ug/kg
	CE47-019	2083548 620	750894 757	Chromium	26 900	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE47-019	2083548 620	750894 757	Chrysene	70 000	36 000	NA	0 0	0 5	3490000	NA	ug/kg
	CE47-019	2083548 620	750894 757	Copper	67 200	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-019	2083548 620	750894 757	Fluoranthene	110 000	42 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE47-019	2083548 620	750894 757	Nickel	17 300	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE47-019	2083548 620	750894 757	Pyrene	94 000	60 000	NA	0 0	0 5	22100000	NA	ug/kg
	CE47-019	2083548 620	750894 757	Strontium	283 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE47-019	2083548 620	750894 757	Uranium-234	2 706	1 230	2 3	0 0	0 5	300	1800	pCi/g
	CE47-019	2083548 620	750894 757	Uranium-238	2 706	1 230	2 000	0 0	0 5	351	1600	pCi/g
	CE47-019	2083548 620	750894 757	Vanadium	62 100	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE47-020	2083555 130	750859 097	Acenaphthene	93 000	48 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE47-020	2083555 130	750859 097	Anthracene	110 000	69 000	NA	0 0	0 5	204000000	NA	ug/kg
	CE47-020	2083555 130	750859 097	Arsenic	13 300	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE47-020	2083555 130	750859 097	Barium	675 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-020	2083555 130	750859 097	Benzo(a)anthracene	310 000	41 000	NA	0 0	0 5	34900	800000	ug/kg
	CE47-020	2083555 130	750859 097	Benzo(a)pyrene	350 000	54 000	NA	0 0	0 5	3490	25700	ug/kg
	CE47-020	2083555 130	750859 097	Benzo(b)fluoranthene	260 000	67 000	NA	0 0	0 5	34900	1010000	ug/kg
	CE47-020	2083555 130	750859 097	Benzo(k)fluoranthene	350 000	72 000	NA	0 0	0 5	349000	1010000	ug/kg
	CE47-020	2083555 130	750859 097	Chromium	34 100	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE47-020	2083555 130	750859 097	Chrysene	360 000	36 000	NA	0 0	0 5	3490000	NA	ug/kg
	CE47-020	2083555 130	750859 097	Copper	151 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-020	2083555 130	750859 097	Fluoranthene	840 000	41 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE47-020	2083555 130	750859 097	Fluorene	61 000	57 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE47-020	2083555 130	750859 097	Indeno(1,2,3-cd)pyrene	220 000	47 000	NA	0 0	0 5	34900	NA	ug/kg
	CE47-020	2083555 130	750859 097	Iron	35300 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE47-020	2083555 130	750859 097	Manganese	469 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE47-020	2083555 130	750859 097	Nickel	47 100	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE47-020	2083555 130	750859 097	Pyrene	590 000	59 000	NA	0 0	0 5	22100000	NA	ug/kg
	CE47-020	2083555 130	750859 097	Strontium	186 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE47-020	2083555 130	750859 097	Vanadium	147 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE47-020	2083555 130	750859 097	Zinc	167 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE48-013	2083586 480	751118 234	Acenaphthene	120 000	53 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE48-013	2083586 480	751118 234	Anthracene	180 000	77 000	NA	0 0	0 5	204000000	NA	ug/kg
	CE48-013	2083586 480	751118 234	Arsenic	12 600	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE48-013	2083586 480	751118 234	Barium	240 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-013	2083586 480	751118 234	Benzo(a)anthracene	350 000	46 000	NA	0 0	0 5	34900	800000	ug/kg
	CE48-013	2083586 480	751118 234	Benzo(a)pyrene	350 000	60 000	NA	0 0	0 5	3490	25700	ug/kg
	CE48-013	2083586 480	751118 234	Benzo(b)fluoranthene	320 000	74 000	NA	0 0	0 5	34900	1010000	ug/kg
	CE48-013	2083586 480	751118 234	Benzo(k)fluoranthene	360 000	80 000	NA	0 0	0 5	349000	1010000	ug/kg
	CE48-013	2083586 480	751118 234	Chromium	46 600	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE48-013	2083586 480	751118 234	Chrysene	380 000	40 000	NA	0 0	0 5	3490000	NA	ug/kg
	CE48-013	2083586 480	751118 234	Copper	68 500	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-013	2083586 480	751118 234	Dibenz(a,h)anthracene	99 000	73 000	NA	0 0	0 5	3490	NA	ug/kg
	CE48-013	2083586 480	751118 234	Di-n-octylphthalate	11000 000	250 000	NA	0 0	0 5	14700000	NA	ug/kg
	CE48-013	2083586 480	751118 234	Fluoranthene	840 000	46 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE48-013	2083586 480	751118 234	Fluorene	83 000	64 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE48-013	2083586 480	751118 234	Indeno(1,2,3-cd)pyrene	220 000	52 000	NA	0 0	0 5	34900	NA	ug/kg
	CE48-013	2083586 480	751118 234	Iron	31600 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE48-013	2083586 480	751118 234	Manganese	413 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE48-013	2083586 480	751118.234	Nickel	44 800	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE48-013	2083586 480	751118 234	Pyrene	680 000	66 000	NA	0 0	0 5	22100000	NA	ug/kg
	CE48-013	2083586 480	751118 234	Strontium	200 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE48-013	2083586 480	751118 234	Uranium-234	3 811	1 210	2 3	0 0	0 5	300	1800	pCi/g
	CE48-013	2083586 480	751118 234	Uranium-235	0 199	0 088	0 094	0 0	0 5	8	1900	pCi/g
	CE48-013	2083586 480	751118 234	Uranium-238	3 811	1 210	2 000	0 0	0 5	351	1600	pCi/g
	CE48-013	2083586 480	751118 234	Vanadium	128 000	31 000	45 590	0 0	0 5	7150	433	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE48-013	2083586 480	751118 234	Zinc	181 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE48-014	2083577 940	751082 916	Arsenic	14 800	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE48-014	2083577 940	751082 916	Barium	248 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-014	2083577 940	751082 916	Benzo(a)anthracene	55 000	47 000	NA	0 0	0 5	34900	800000	ug/kg
	CE48-014	2083577 940	751082 916	Benzo(a)pyrene	71 000	61 000	NA	0 0	0 5	3490	25700	ug/kg
	CE48-014	2083577 940	751082 916	Chromium	46 200	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE48-014	2083577 940	751082 916	Chrysene	71 000	41 000	NA	0 0	0 5	3490000	NA	ug/kg
	CE48-014	2083577 940	751082 916	Copper	65 800	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-014	2083577 940	751082 916	Fluoranthene	120 000	47 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE48-014	2083577 940	751082 916	Iron	33300 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE48-014	2083577 940	751082 916	Manganese	459 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE48-014	2083577 940	751082 916	Nickel	47 100	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE48-014	2083577 940	751082 916	Pyrene	120 000	67 000	NA	0 0	0 5	22100000	NA	ug/kg
	CE48-014	2083577 940	751082 916	Strontium	149 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE48-014	2083577 940	751082 916	Uranium-234	6 076	1 530	2 3	0 0	0 5	300	1800	pCi/g
	CE48-014	2083577 940	751082 916	Uranium-238	6 076	1 530	2 000	0 0	0 5	351	1600	pCi/g
	CE48-014	2083577 940	751082 916	Vanadium	154 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE48-014	2083577 940	751082 916	Zinc	173 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE48-015	2083597 190	750976 547	Acenaphthene	120 000	55 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE48-015	2083597 190	750976 547	Anthracene	380 000	80 000	NA	0 0	0 5	204000000	NA	ug/kg
	CE48-015	2083597 190	750976 547	Arsenic	10 600	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE48-015	2083597 190	750976 547	Barium	238 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-015	2083597 190	750976 547	Benzo(a)anthracene	1300 000	48 000	NA	0 0	0 5	34900	800000	ug/kg
	CE48-015	2083597 190	750976 547	Benzo(a)pyrene	1400 000	62 000	NA	0 0	0 5	3490	25700	ug/kg
	CE48-015	2083597 190	750976 547	Benzo(b)fluoranthene	1300 000	77 000	NA	0 0	0 5	34900	1010000	ug/kg
	CE48-015	2083597 190	750976 547	Benzo(k)fluoranthene	1200 000	83 000	NA	0 0	0 5	349000	1010000	ug/kg
	CE48-015	2083597 190	750976 547	Chromium	62 200	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE48-015	2083597 190	750976 547	Chrysene	1500 000	42 000	NA	0 0	0 5	3490000	NA	ug/kg
	CE48-015	2083597 190	750976 547	Copper	74 300	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-015	2083597 190	750976 547	Dibenz(a,h)anthracene	290 000	76 000	NA	0 0	0 5	3490	NA	ug/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE48-015	2083597 190	750976 547	Fluoranthene	2600 000	48 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE48-015	2083597 190	750976 547	Fluorene	110 000	66 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE48-015	2083597 190	750976 547	Indeno(1,2,3-cd)pyrene	780 000	54 000	NA	0 0	0 5	34900	NA	ug/kg
	CE48-015	2083597 190	750976 547	Iron	28700 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE48-015	2083597 190	750976 547	Nickel	45 700	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE48-015	2083597 190	750976 547	Pyrene	2400 000	69 000	NA	0 0	0 5	22100000	NA	ug/kg
	CE48-015	2083597 190	750976 547	Strontium	130 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE48-015	2083597 190	750976 547	Uranium-235	0 147	0 086	0 094	0 0	0 5	8	1900	pCi/g
	CE48-015	2083597 190	750976 547	Vanadium	120 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE48-015	2083597 190	750976 547	Zinc	139 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE47-012	2083603 580	750941 287	Acenaphthene	950 000	47 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE47-012	2083603 580	750941 287	Arsenic	10 600	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE47-012	2083603 580	750941 287	Barium	641 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-012	2083603 580	750941 287	Copper	93 100	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-012	**2083603 580**	**750941 287**	**Dibenz(a,h)anthracene**	**5500 000**	**65 000**	**NA**	**0 0**	**0 5**	**3490**	**NA**	**ug/kg**
	CE47-012	2083603 580	750941 287	Dibenzofuran	330 000	52 000	NA	0 0	0 5	2950000	NA	ug/kg
	CE47-012	2083603 580	750941 287	Fluorene	1300 000	56 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE47-012	2083603 580	750941 287	Iron	66900 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE47-012	2083603 580	750941 287	Manganese	1680 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE47-012	2083603 580	750941 287	Nickel	56 100	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE47-012	2083603 580	750941 287	Strontium	148 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE47-012	2083603 580	750941 287	Uranium-234	3 334	1 460	2 3	0 0	0 5	300	1800	pCi/g
	CE47-012	2083603 580	750941 287	Uranium-235	0 186	0 127	0 094	0 0	0 5	8	1900	pCi/g
	CE47-012	2083603 580	750941 287	Uranium-238	3 334	1 460	2 000	0 0	0 5	351	1600	pCi/g
	CE47-012	2083603 580	750941 287	Vanadium	203 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE47-012	2083603 580	750941 287	Zinc	241 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE47-013	2083609 820	750905 490	2-Methylnaphthalene	120 000	40 000	NA	0 0	0 5	20400000	NA	ug/kg
	CE47-013	2083609 820	750905 490	Acenaphthene	600 000	51 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE47-013	2083609 820	750905 490	Anthracene	1100 000	74 000	NA	0 0	0 5	204000000	NA	ug/kg
	CE47-013	2083609 820	750905 490	Barium	799 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE47-013	2083609 820	750905 490	Benzo(a)anthracene	1300 000	45 000	NA	0 0	0 5	34900	800000	ug/kg
	CE47-013	2083609 820	750905 490	Benzo(a)pyrene	1200 000	58 000	NA	0 0	0 5	3490	25700	ug/kg
	CE47-013	2083609 820	750905 490	Benzo(b)fluoranthene	870 000	72 000	NA	0 0	0 5	34900	1010000	ug/kg
	CE47-013	2083609 820	750905 490	Benzo(k)fluoranthene	970 000	78 000	NA	0 0	0 5	349000	1010000	ug/kg
	CE47-013	2083609 820	750905 490	Chromium	44 600	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE47-013	2083609 820	750905 490	Chrysene	1300 000	39 000	NA	0 0	0 5	3490000	NA	ug/kg
	CE47-013	2083609 820	750905 490	Copper	80 800	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-013	2083609 820	750905 490	Dibenz(a,h)anthracene	400 000	71 000	NA	0 0	0 5	3490	NA	ug/kg
	CE47-013	2083609 820	750905 490	Dibenzofuran	350 000	57 000	NA	0 0	0 5	2950000	NA	ug/kg
	CE47-013	2083609 820	750905 490	Fluoranthene	3400 000	45 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE47-013	2083609 820	750905 490	Fluorene	610 000	62 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE47-013	2083609 820	750905 490	Indeno(1,2,3-cd)pyrene	820 000	50 000	NA	0 0	0 5	34900	NA	ug/kg
	CE47-013	2083609 820	750905 490	Iron	37900 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE47-013	2083609 820	750905 490	Naphthalene	320 000	48 000	NA	0 0	0 5	3090000	NA	ug/kg
	CE47-013	2083609 820	750905 490	Nickel	40 400	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE47-013	2083609 820	750905 490	Pyrene	2900 000	64 000	NA	0 0	0 5	22100000	NA	ug/kg
	CE47-013	2083609 820	750905 490	Strontium	287 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE47-013	2083609 820	750905 490	Uranium-234	4 383	1 590	2 3	0 0	0 5	300	1800	pCi/g
	CE47-013	2083609 820	750905 490	Uranium-235	0 254	0 159	0 094	0 0	0 5	8	1900	pCi/g
	CE47-013	2083609 820	750905 490	Uranium-238	4 383	1 590	2 000	0 0	0 5	351	1600	pCi/g
	CE47-013	2083609 820	750905 490	Vanadium	118 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE47-013	2083609 820	750905 490	Zinc	118 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE47-014	2083616 360	750870 394	Acenaphthene	240 000	48 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE47-014	2083616 360	750870 394	Anthracene	360 000	69 000	NA	0 0	0 5	204000000	NA	ug/kg
	CE47-014	2083616 360	750870 394	Barium	767 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-014	2083616 360	750870 394	Benzo(a)anthracene	950 000	41 000	NA	0 0	0 5	34900	800000	ug/kg
	CE47-014	2083616 360	750870 394	Benzo(a)pyrene	1000 000	54 000	NA	0 0	0 5	3490	25700	ug/kg
	CE47-014	2083616 360	750870 394	Benzo(b)fluoranthene	820 000	67 000	NA	0 0	0 5	34900	1010000	ug/kg
	CE47-014	2083616 360	750870 394	Benzo(k)fluoranthene	830 000	72 000	NA	0 0	0 5	349000	1010000	ug/kg
	CE47-014	2083616 360	750870 394	Chromium	23 500	20 000	16 990	0 0	0 5	268	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE47-014	2083616 360	750870 394	Chrysene	1100 000	36 000	NA	0 0	0 5	3490000	NA	ug/kg
	CE47-014	2083616 360	750870 394	Copper	144 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-014	2083616 360	750870 394	Fluoranthene	2200 000	41 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE47-014	2083616 360	750870 394	Fluorene	180 000	57 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE47-014	2083616 360	750870 394	Indeno(1,2,3-cd)pyrene	720 000	47 000	NA	0 0	0 5	34900	NA	ug/kg
	CE47-014	2083616 360	750870 394	Iron	29000 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE47-014	2083616 360	750870 394	Manganese	479 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE47-014	2083616 360	750870 394	Naphthalene	70 000	44 000	NA	0 0	0 5	3090000	NA	ug/kg
	CE47-014	2083616 360	750870 394	Nickel	36 700	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE47-014	2083616 360	750870 394	Pyrene	2200 000	59 000	NA	0 0	0 5	22100000	NA	ug/kg
	CE47-014	2083616 360	750870 394	Strontium	203 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE47-014	2083616 360	750870 394	Uranium-234	4 007	1 370	2 3	0 0	0 5	300	1800	pCi/g
	CE47-014	2083616 360	750870 394	Uranium-235	0 227	0 113	0 094	0 0	0 5	8	1900	pCi/g
	CE47-014	2083616 360	750870 394	Uranium-238	4 007	1 370	2 000	0 0	0 5	351	1600	pCi/g
	CE47-014	2083616 360	750870.394	Vanadium	92 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE47-014	2083616 360	750870 394	Zinc	118 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE47-015	2083569 490	750948 167	Acenaphthene	62 000	49 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE47-015	2083569 490	750948 167	Anthracene	78 000	71 000	NA	0 0	0 5	204000000	NA	ug/kg
	CE47-015	2083569 490	750948 167	Arsenic	14 100	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE47-015	2083569 490	750948 167	Barium	727 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-015	2083569 490	750948 167	Benzo(a)anthracene	170 000	43 000	NA	0 0	0 5	34900	800000	ug/kg
	CE47-015	2083569 490	750948 167	Benzo(a)pyrene	210 000	56 000	NA	0 0	0 5	3490	25700	ug/kg
	CE47-015	2083569 490	750948 167	Chromium	42 300	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE47-015	2083569 490	750948 167	Chrysene	200 000	37 000	NA	0 0	0 5	3490000	NA	ug/kg
	CE47-015	2083569 490	750948 167	Copper	211 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-015	2083569 490	750948 167	Fluoranthene	420 000	43 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE47-015	2083569 490	750948 167	Iron	50500 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE47-015	2083569 490	750948 167	Manganese	1030 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE47-015	2083569 490	750948 167	Nickel	49 200	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE47-015	2083569 490	750948 167	Pyrene	480 000	61 000	NA	0 0	0 5	22100000	NA	ug/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE47-015	2083569 490	750948 167	Strontium	161 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE47-015	2083569 490	750948 167	Uranium-234	2 961	1 490	2 3	0 0	0 5	300	1800	pCi/g
	CE47-015	2083569 490	750948 167	Uranium-235	0 192	0 140	0 094	0 0	0 5	8	1900	pCi/g
	CE47-015	2083569 490	750948 167	Uranium-238	2 961	1 490	2 000	0 0	0 5	351	1600	pCi/g
	CE47-015	2083569 490	750948 167	Vanadium	180 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE47-015	2083569 490	750948 167	Zinc	239 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE47-016	2083576 040	750917 939	Barium	833 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-016	2083576 040	750917 939	Benzo(a)anthracene	130 000	42 000	NA	0 0	0 5	34900	800000	ug/kg
	CE47-016	2083576 040	750917 939	Benzo(a)pyrene	140 000	55 000	NA	0 0	0 5	3490	25700	ug/kg
	CE47-016	2083576 040	750917 939	Benzo(b)fluoranthene	110 000	68 000	NA	0 0	0 5	34900	1010000	ug/kg
	CE47-016	2083576 040	750917 939	Benzo(k)fluoranthene	110 000	74 000	NA	0 0	0 5	349000	1010000	ug/kg
	CE47-016	2083576 040	750917 939	Chrysene	150 000	37 000	NA	0 0	0 5	3490000	NA	ug/kg
	CE47-016	2083576 040	750917 939	Copper	234 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-016	2083576 040	750917 939	Fluoranthene	250 000	42 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE47-016	2083576 040	750917 939	Indeno(1,2,3-cd)pyrene	76 000	48 000	NA	0 0	0 5	34900	NA	ug/kg
	CE47-016	2083576 040	750917 939	Pyrene	250 000	61 000	NA	0 0	0 5	22100000	NA	ug/kg
	CE47-016	2083576 040	750917 939	Strontium	338 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE47-016	2083576 040	750917 939	Uranium-234	4 600	1 860	2 3	0 0	0 5	300	1800	pCi/g
	CE47-016	2083576 040	750917 939	Uranium-235	0 310	0 170	0 094	0 0	0 5	8	1900	pCi/g
	CE47-016	2083576 040	750917 939	Uranium-238	4 600	1 860	2 000	0 0	0 5	351	1600	pCi/g
	CE47-016	2083576 040	750917 939	Vanadium	101 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE47-016	2083576 040	750917 939	Zinc	154 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE47-017	2083582 470	750882 553	Arsenic	10 800	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE47-017	2083582 470	750882 553	Barium	638 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE47-017	2083582 470	750882 553	Benzo(a)anthracene	180 000	43 000	NA	0 0	0 5	34900	800000	ug/kg
	CE47-017	2083582 470	750882 553	Benzo(a)pyrene	210 000	56 000	NA	0 0	0 5	3490	25700	ug/kg
	CE47-017	2083582 470	750882 553	Benzo(b)fluoranthene	180 000	69 000	NA	0 0	0 5	34900	1010000	ug/kg
	CE47-017	2083582 470	750882 553	Benzo(k)fluoranthene	190 000	75 000	NA	0 0	0 5	349000	1010000	ug/kg
	CE47-017	2083582 470	750882 553	Chromium	55 400	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE47-017	2083582 470	750882 553	Chrysene	220 000	37 000	NA	0 0	0 5	3490000	NA	ug/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE47-017	2083582 470	750882 553	Copper	147 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE47-017	2083582 470	750882 553	Fluoranthene	440 000	43 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE47-017	2083582 470	750882 553	Indeno(1,2,3-cd)pyrene	120 000	48 000	NA	0 0	0 5	34900	NA	ug/kg
	CE47-017	2083582 470	750882 553	Iron	35300 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE47-017	2083582 470	750882 553	Nickel	43 200	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE47-017	2083582 470	750882 553	Pyrene	370 000	61 000	NA	0 0	0 5	22100000	NA	ug/kg
	CE47-017	2083582 470	750882 553	Strontium	132 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE47-017	2083582 470	750882 553	Uranium-235	0 119	0 087	0 094	0 0	0 5	8	1900	pCi/g
	CE47-017	2083582 470	750882 553	Vanadium	154 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE47-017	2083582 470	750882 553	Zinc	135 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE48-016	2083537 710	751130 541	Arsenic	11 000	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE48-016	2083537 710	751130 541	Barium	312 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-016	2083537 710	751130 541	Chromium	30 400	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE48-016	2083537 710	751130 541	Copper	58 900	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-016	2083537 710	751130 541	Iron	47600 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE48-016	2083537 710	751130 541	Manganese	787 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE48-016	2083537 710	751130 541	Nickel	46 500	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE48-016	2083537 710	751130 541	Strontium	309 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE48-016	2083537 710	751130 541	Uranium-234	3 560	1 530	2 3	0 0	0 5	300	1800	pCi/g
	CE48-016	2083537 710	751130 541	Uranium-235	0 195	0 122	0 094	0 0	0 5	8	1900	pCi/g
	CE48-016	2083537 710	751130 541	Uranium-238	3 560	1 530	2 000	0 0	0 5	351	1600	pCi/g
	CE48-016	2083537 710	751130 541	Vanadium	98 300	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE48-016	2083537 710	751130 541	Zinc	162 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE48-017	2083544 060	751095 089	Acenaphthene	60 000	47 000	NA	0 0	0 5	40800000	NA	ug/kg
	CE48-017	2083544 060	751095 089	Anthracene	70 000	68 000	NA	0 0	0 5	204000000	NA	ug/kg
	CE48-017	2083544 060	751095 089	Barium	694 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-017	2083544 060	751095 089	Benzo(a)anthracene	180 000	41 000	NA	0 0	0 5	34900	800000	ug/kg
	CE48-017	2083544 060	751095 089	Benzo(a)pyrene	200 000	53 000	NA	0 0	0 5	3490	25700	ug/kg
	CE48-017	2083544 060	751095 089	Benzo(b)fluoranthene	190 000	66 000	NA	0 0	0 5	34900	1010000	ug/kg
	CE48-017	2083544 060	751095 089	Benzo(k)fluoranthene	190 000	71 000	NA	0 0	0 5	349000	1010000	ug/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE48-017	2083544 060	751095 089	bis(2-Ethylhexyl)phthalate	380 000	73 000	NA	0 0	0 5	1970000	NA	ug/kg
	CE48-017	2083544 060	751095 089	Chromium	31 700	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE48-017	2083544 060	751095 089	Chrysene	240 000	36 000	NA	0 0	0 5	3490000	NA	ug/kg
	CE48-017	2083544 060	751095 089	Copper	100 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-017	2083544 060	751095 089	Fluoranthene	460 000	41 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE48-017	2083544 060	751095 089	Indeno(1,2,3-cd)pyrene	110 000	46 000	NA	0 0	0 5	34900	NA	ug/kg
	CE48-017	2083544 060	751095 089	Iron	28100 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE48-017	2083544 060	751095 089	Manganese	544 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE48-017	2083544 060	751095 089	Nickel	43 500	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE48-017	2083544 060	751095 089	Pyrene	370 000	59 000	NA	0 0	0 5	22100000	NA	ug/kg
	CE48-017	2083544 060	751095 089	Strontium	286 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE48-017	2083544 060	751095 089	Uranium-234	4 791	1 550	2 3	0 0	0 5	300	1800	pCi/g
	CE48-017	2083544 060	751095 089	Uranium-235	0 256	0 117	0 094	0 0	0 5	8	1900	pCi/g
	CE48-017	2083544 060	751095 089	Uranium-238	4 791	1 550	2 000	0 0	0 5	351	1600	pCi/g
	CE48-017	2083544 060	751095 089	Vanadium	113 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE48-017	2083544 060	751095 089	Zinc	107 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE48-018	2083550 490	751059 651	Arsenic	13 300	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE48-018	2083550 490	751059 651	Barium	262 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-018	2083550 490	751059 651	Chrysene	50 000	36 000	NA	0 0	0 5	3490000	NA	ug/kg
	CE48-018	2083550 490	751059 651	Copper	72 600	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-018	2083550 490	751059 651	Fluoranthene	73 000	42 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE48-018	2083550 490	751059 651	Iron	49500 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE48-018	2083550 490	751059 651	Manganese	1080 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE48-018	2083550 490	751059 651	Nickel	46 200	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE48-018	2083550 490	751059 651	Pyrene	72 000	60 000	NA	0 0	0 5	22100000	NA	ug/kg
	CE48-018	2083550 490	751059 651	Strontium	155 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE48-018	2083550 490	751059 651	Uranium-234	3 114	1 100	2 3	0 0	0 5	300	1800	pCi/g
	CE48-018	2083550 490	751059 651	Uranium-235	0 132	0 093	0 094	0 0	0 5	8	1900	pCi/g
	CE48-018	2083550 490	751059 651	Uranium-238	3 114	1 100	2 000	0 0	0 5	351	1600	pCi/g
	CE48-018	2083550 490	751059 651	Vanadium	154 000	31 000	45 590	0 0	0 5	7150	433	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE48-018	2083550 490	751059 651	Zinc	169 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE48-019	2083556 710	751024 376	Arsenic	16 900	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE48-019	2083556 710	751024 376	Barium	729 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-019	2083556 710	751024 376	Benzo(a)anthracene	110 000	41 000	NA	0 0	0 5	34900	800000	ug/kg
	CE48-019	2083556 710	751024 376	Benzo(a)pyrene	140 000	53 000	NA	0 0	0 5	3490	25700	ug/kg
	CE48-019	2083556 710	751024 376	Benzo(b)fluoranthene	120 000	66 000	NA	0 0	0 5	34900	1010000	ug/kg
	CE48-019	2083556 710	751024 376	Benzo(k)fluoranthene	130 000	71 000	NA	0 0	0 5	349000	1010000	ug/kg
	CE48-019	2083556 710	751024 376	Chromium	55 400	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE48-019	2083556 710	751024 376	Chrysene	150 000	36 000	NA	0 0	0 5	3490000	NA	ug/kg
	CE48-019	2083556 710	751024 376	Copper	68 900	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-019	2083556 710	751024 376	Fluoranthene	270 000	41 000	NA	0 0	0 5	27200000	NA	ug/kg
	CE48-019	2083556 710	751024 376	Indeno(1,2,3-cd)pyrene	79 000	46 000	NA	0 0	0 5	34900	NA	ug/kg
	CE48-019	2083556 710	751024 376	Iron	40300 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE48-019	**2083556 710**	**751024.376**	**Lead**	**60 000**	**7 000**	**54 620**	**0 0**	**0 5**	**1000**	**25 6**	**mg/kg**
	CE48-019	2083556 710	751024 376	Manganese	692 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE48-019	2083556 710	751024 376	Nickel	47 700	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE48-019	2083556 710	751024 376	Pyrene	230 000	58 000	NA	0 0	0 5	22100000	NA	ug/kg
	CE48-019	2083556 710	751024 376	Strontium	250 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE48-019	2083556 710	751024 376	Uranium-234	2 134	1 660	2 000	0 0	0 5	300	1800	pCi/g
	CE48-019	2083556 710	751024 376	Uranium-235	0 169	0 134	0 094	0 0	0 5	8	1900	pCi/g
	CE48-019	2083556 710	751024 376	Uranium-238	2 134	1 660	2 000	0 0	0 5	351	1600	pCi/g
	CE48-019	2083556 710	751024 376	Vanadium	130 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE48-019	2083556 710	751024 376	Zinc	228 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CF48-022	2083740 600	750985 237	Barium	564	98 000	289 38	1	1 5	26400	-	mg/kg
	CF48-022	2083740 600	750985 237	Copper	113	4 000	38 21	1	1 5	40900	-	mg/kg
	CF48-022	2083740 600	750985 237	Uranium, Total	12 177	5 018	3 04	1	1 5	2750	67 8	mg/kg
	CF48-022	2083740 600	750985 237	Uranium, Total	10 722	4 425	3 04	1	1 5	2750	67 8	mg/kg
	CF48-022	2083740 600	750985 237	Uranium-234	4 1	1 690	2 64	1	1 5	300	1800	pCi/g
	CF48-022	2083740 600	750985 237	Uranium-235	0 27	0 142	0 12	1	1 5	8	1900	pCi/g
	CF48-022	2083740 600	750985 237	Uranium-238	4 1	1 690	1 49	1	1 5	351	1600	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CF48-022	2083740 600	750985 237	Vanadium	154	31 000	88 49	1	1 5	7150	433	mg/kg
	CF48-022	2083740 600	750985 237	Uranium, Total	15 444	5 554	3 04	1 5	2 5	2750	67 8	mg/kg
	CF48-022	2083740 600	750985 237	Uranium, Total	18 117	6 556	3 04	1 5	2 5	2750	67 8	mg/kg
	CF48-022	2083740 600	750985 237	Uranium-234	6 1	2 207	2 64	1 5	2 5	300	1800	pCi/g
	CF48-022	2083740 600	750985 237	Uranium-235	0 27	0 175	0 12	1 5	2 5	8	1900	pCi/g
	CF48-022	2083740 600	750985 237	Uranium-238	6 1	2 207	1 49	1 5	2 5	351	1600	pCi/g
	CF48-024	2083769 687	751003 428	1,4-Dichlorobenzene	170	5 000	-	1	1 5	840000	-	ug/kg
	CF48-024	2083769 687	751003 428	4-Methyl-2-pentanone	8	50 000	-	1	1 5	16400000	-	ug/kg
	CF48-024	2083769 687	751003 428	Acetone	460	100 000	211000	1	1 5	102000000	211000	ug/kg
	CF48-024	2083769 687	751003 428	Barium	748	98 000	-	1	1 5	26400	-	mg/kg
	CF48-024	2083769 687	751003 428	bis(2-Ethylhexyl)phthalate	440	71 000	-	1	1 5	1970000	-	ug/kg
	CF48-024	2083769 687	751003 428	Copper	43 1	4 000	-	1	1 5	40900	-	mg/kg
	CF48-024	2083769 687	751003 428	Lead	32 7	7 000	25 6	1	1 5	1000	25 6	mg/kg
	CF48-024	2083769 687	751003 428	Naphthalene	8 7	5 000	-	1	1 5	3090000	-	ug/kg
	CF48-024	2083769 687	751003 428	Plutonium-239/240	0 632	0 022	3800	1	1 5	50	3800	pCi/g
	CF48-024	2083769 687	751003 428	Strontium	264	20 000	-	1	1 5	613000	-	mg/kg
	CF48-024	2083769 687	751003 428	Toluene	13	5 000	128000	1	1 5	31300000	128000	ug/kg
	CF48-024	2083769 687	751003 428	Uranium, Total	5 643	3 840	67 8	1	1 5	2750	67 8	mg/kg
	CF48-024	2083769 687	751003 428	Uranium, Total	5 4054	3 742	67 8	1	1 5	2750	67 8	mg/kg
	CF48-024	2083769 687	751003 428	Uranium-235	0 242	0 212	1900	1	1 5	8	1900	pCi/g
	CF48-024	2083769 687	751003 428	Uranium-235	0 15	9 369	1900	1	1 5	8	1900	pCi/g
	CF48-024	2083769 687	751003 428	Uranium-238	1 9	1 293	1600	1	1 5	351	1600	pCi/g
	CF48-024	2083769 687	751003 428	Vanadium	129	31 000	433	1	1 5	7150	433	mg/kg
700-163 1 - Radioactive Site 700 North of Building 774 (Area 3) Wash Area	CH48-005	2084304 120	751091 815	Acenaphthene	130 000	49 000	NA	0 0	0 5	40800000	NA	ug/kg
	CH48-005	2084304 120	751091 815	Americium-241	0 505	0 395	0 023	0 0	0 5	76	1900	pCi/g
	CH48-005	2084304 120	751091 815	Anthracene	190 000	71 000	NA	0 0	0 5	204000000	NA	ug/kg
	CH48-005	2084304 120	751091 815	Aroclor-1254	27 000	4 700	NA	0 0	0 5	12400	371000	ug/kg
	CH48-005	2084304 120	751091 815	Aroclor-1260	17 000	5 300	NA	0 0	0 5	12400	NA	ug/kg
	CH48-005	2084304 120	751091 815	Arsenic	11 000	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CH48-005	2084304 120	751091 815	Barium	581 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CH48-005	2084304 120	751091 815	Benzo(a)anthracene	490 000	43 000	NA	0 0	0 5	34900	800000	ug/kg
	CH48-005	2084304 120	751091 815	Benzo(a)pyrene	530 000	56 000	NA	0 0	0 5	3490	25700	ug/kg
	CH48-005	2084304 120	751091 815	Benzo(b)fluoranthene	450 000	69 000	NA	0 0	0 5	34900	1010000	ug/kg
	CH48-005	2084304 120	751091 815	Benzo(k)fluoranthene	480 000	75 000	NA	0 0	0 5	349000	1010000	ug/kg
	CH48-005	2084304 120	751091 815	Chromium	42 000	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CH48-005	2084304 120	751091 815	Chrysene	530 000	37 000	NA	0 0	0 5	3490000	NA	ug/kg
	CH48-005	2084304 120	751091 815	Copper	34 400	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH48-005	2084304 120	751091 815	Dibenz(a,h)anthracene	160 000	68 000	NA	0 0	0 5	3490	NA	ug/kg
	CH48-005	2084304 120	751091 815	Fluoranthene	1200 000	43 000	NA	0 0	0 5	27200000	NA	ug/kg
	CH48-005	2084304 120	751091 815	Fluorene	98 000	59 000	NA	0 0	0 5	40800000	NA	ug/kg
	CH48-005	2084304 120	751091 815	Indeno(1,2,3-cd)pyrene	350 000	48 000	NA	0 0	0 5	34900	NA	ug/kg
	CH48-005	2084304 120	751091 815	Iron	27800 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CH48-005	2084304 120	751091 815	Naphthalene	49 000	46 000	NA	0 0	0 5	3090000	NA	ug/kg
	CH48-005	2084304 120	751091 815	Nickel	34 900	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CH48-005	2084304 120	751091 815	Plutonium-239/240	7 321	0 395	0 066	0 0	0 5	50/116	3800	pCi/g
	CH48-005	2084304 120	751091 815	Pyrene	1200 000	61 000	NA	0 0	0 5	22100000	NA	ug/kg
	CH48-005	2084304 120	751091 815	Strontium	152 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CH48-005	2084304 120	751091 815	Vanadium	120 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CH48-005	2084304 120	751091 815	Zinc	96 400	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CH48-006	2084268 290	751088 041	2-Methylnaphthalene	150 000	38 000	NA	0 0	0 5	20400000	NA	ug/kg
	CH48-006	2084268 290	751088 041	Acenaphthene	1100 000	49 000	NA	0 0	0 5	40800000	NA	ug/kg
	CH48-006	2084268 290	751088 041	Americium-241	1 291	0 491	0 023	0 0	0 5	76	1900	pCi/g
	CH48-006	2084268 290	751088 041	Anthracene	1200 000	71 000	NA	0 0	0 5	204000000	NA	ug/kg
	CH48-006	2084268 290	751088 041	Aroclor-1254	96 000	4 700	NA	0 0	0 5	12400	371000	ug/kg
	CH48-006	2084268 290	751088 041	Aroclor-1260	49 000	5 300	NA	0 0	0 5	12400	NA	ug/kg
	CH48-006	2084268 290	751088 041	Barium	688 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CH48-006	2084268 290	751088 041	Benzo(a)anthracene	3100 000	42 000	NA	0 0	0 5	34900	800000	ug/kg
	CH48-006	2084268 290	751088 041	Benzo(a)pyrene	2900 000	55 000	NA	0 0	0 5	3490	25700	ug/kg
	CH48-006	2084268 290	751088 041	Benzo(b)fluoranthene	2600 000	68 000	NA	0 0	0 5	34900	1010000	ug/kg
	CH48-006	2084268 290	751088 041	Benzo(k)fluoranthene	2600 000	74 000	NA	0 0	0 5	349000	1010000	ug/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CH48-006	2084268 290	751088 041	bis(2-Ethylhexyl)phthalate	95 000	76 000	NA	0 0	0 5	1970000	NA	ug/kg
	CH48-006	2084268 290	751088 041	Butylbenzylphthalate	100 000	70 000	NA	0 0	0 5	147000000	NA	ug/kg
	CH48-006	2084268 290	751088 041	Chromium	31 400	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CH48-006	2084268 290	751088 041	Chrysene	3500 000	37 000	NA	0 0	0 5	3490000	NA	ug/kg
	CH48-006	2084268 290	751088 041	Copper	54 900	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH48-006	2084268 290	751088 041	Dibenz(a,h)anthracene	620 000	67 000	NA	0 0	0 5	3490	NA	ug/kg
	CH48-006	2084268 290	751088 041	Dibenzofuran	320 000	54 000	NA	0 0	0 5	2950000	NA	ug/kg
	CH48-006	2084268 290	751088 041	Di-n-octylphthalate	61 000	57 000	NA	0 0	0 5	14700000	NA	ug/kg
	CH48-006	2084268 290	751088 041	Fluoranthene	8000 000	85 000	NA	0 0	0 5	27200000	NA	ug/kg
	CH48-006	2084268 290	751088 041	Fluorene	760 000	59 000	NA	0 0	0 5	40800000	NA	ug/kg
	CH48-006	2084268 290	751088 041	Indeno(1,2,3-cd)pyrene	1800 000	48 000	NA	0 0	0 5	34900	NA	ug/kg
	CH48-006	2084268 290	751088 041	Iron	25800 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CH48-006	2084268 290	751088 041	Manganese	368 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CH48-006	2084268 290	751088 041	Naphthalene	350 000	46 000	NA	0 0	0 5	3090000	NA	ug/kg
	CH48-006	2084268 290	751088 041	Nickel	34 200	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CH48-006	2084268 290	751088 041	Plutonium-239/240	13 671	0 491	0 066	0 0	0 5	50/116	3800	pCi/g
	CH48-006	2084268 290	751088 041	Pyrene	7300 000	120 000	NA	0 0	0 5	22100000	NA	ug/kg
	CH48-006	2084268 290	751088 041	Strontium	165 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CH48-006	2084268 290	751088 041	Uranium-234	3 508	1 410	2 3	0 0	0 5	300	1800	pCi/g
	CH48-006	2084268 290	751088 041	Uranium-235	0 293	0 107	0 094	0 0	0 5	8	1900	pCi/g
	CH48-006	2084268 290	751088 041	Uranium-238	3 508	1 410	2 000	0 0	0 5	351	1600	pCi/g
	CH48-006	2084268 290	751088 041	Vanadium	88 400	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CH48-006	2084268 290	751088 041	Zinc	274 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CH48-007	2084232 380	751083 745	Anthracene	83 000	69 000	NA	0 0	0 5	204000000	NA	ug/kg
	CH48-007	2084232 380	751083 745	Barium	617 000	98 000	141.260	0 0	0 5	26400	NA	mg/kg
	CH48-007	2084232 380	751083 745	Benzo(a)anthracene	260 000	42 000	NA	0 0	0 5	34900	800000	ug/kg
	CH48-007	2084232 380	751083 745	Benzo(a)pyrene	310 000	54 000	NA	0 0	0 5	3490	25700	ug/kg
	CH48-007	2084232 380	751083 745	Benzo(b)fluoranthene	210 000	67 000	NA	0 0	0 5	34900	1010000	ug/kg
	CH48-007	2084232 380	751083 745	Benzo(k)fluoranthene	240 000	72 000	NA	0 0	0 5	349000	1010000	ug/kg
	CH48-007	2084232 380	751083 745	Chromium	36 700	20 000	16 990	0 0	0 5	268	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CH48-007	2084232 380	751083 745	Chrysene	330 000	36 000	NA	0 0	0 5	3490000	NA	ug/kg
	CH48-007	2084232 380	751083 745	Copper	99 100	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH48-007	2084232 380	751083 745	Dibenz(a,h)anthracene	85 000	66 000	NA	0 0	0 5	3490	NA	ug/kg
	CH48-007	2084232 380	751083 745	Fluoranthene	530 000	42 000	NA	0 0	0 5	27200000	NA	ug/kg
	CH48-007	2084232 380	751083 745	Indeno(1,2,3-cd)pyrene	180 000	47 000	NA	0 0	0 5	34900	NA	ug/kg
	CH48-007	2084232 380	751083 745	Iron	34000 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CH48-007	2084232 380	751083 745	Manganese	561 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CH48-007	2084232 380	751083 745	Nickel	37 700	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CH48-007	2084232 380	751083 745	Pyrene	490 000	60 000	NA	0 0	0 5	22100000	NA	ug/kg
	CH48-007	2084232 380	751083 745	Strontium	170 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CH48-007	2084232 380	751083 745	Uranium-234	3 919	1 710	2 3	0 0	0 5	300	1800	pCi/g
	CH48-007	2084232 380	751083 745	Uranium-235	0 219	0 142	0 094	0 0	0 5	8	1900	pCi/g
	CH48-007	2084232 380	751083 745	Uranium-238	3 919	1 710	2 000	0 0	0 5	351	1600	pCi/g
	CH48-007	2084232 380	751083 745	Vanadium	126 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CH48-007	2084232 380	751083 745	Zinc	148 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CH48-008	2084282 640	751120 857	Arsenic	14 800	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CH48-008	2084282 640	751120 857	Barium	599 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CH48-008	2084282 640	751120 857	Benzo(a)anthracene	63 000	44 000	NA	0 0	0 5	34900	800000	ug/kg
	CH48-008	2084282 640	751120 857	Benzo(a)pyrene	59 000	57 000	NA	0 0	0 5	3490	25700	ug/kg
	CH48-008	2084282 640	751120 857	Chromium	48 700	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CH48-008	2084282 640	751120 857	Chrysene	73 000	38 000	NA	0 0	0 5	3490000	NA	ug/kg
	CH48-008	2084282 640	751120 857	Copper	99 700	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH48-008	2084282 640	751120 857	Fluoranthene	170 000	44 000	NA	0 0	0 5	27200000	NA	ug/kg
	CH48-008	2084282 640	751120 857	Iron	30700 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CH48-008	2084282 640	751120 857	Manganese	438 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CH48-008	2084282 640	751120 857	Nickel	43 300	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CH48-008	2084282 640	751120 857	Pyrene	130 000	63 000	NA	0 0	0 5	22100000	NA	ug/kg
	CH48-008	2084282 640	751120 857	Strontium	138 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CH48-008	2084282 640	751120 857	Uranium-234	2 869	1 400	2 3	0 0	0 5	300	1800	pCi/g
	CH48-008	2084282 640	751120 857	Uranium-235	0 231	0 134	0 094	0 0	0 5	8	1900	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CH48-008	2084282 640	751120 857	Uranium-238	2 869	1 400	2 000	0 0	0 5	351	1600	pCi/g
	CH48-008	2084282 640	751120 857	Vanadium	123 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CH48-008	2084282 640	751120 857	Zinc	104 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CH48-009	2084246 910	751117 138	2-Methylnaphthalene	290 000	36 000	NA	0 0	0 5	20400000	NA	ug/kg
	CH48-009	2084246 910	751117 138	Barium	790 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CH48-009	2084246 910	751117 138	Benzo(a)anthracene	79 000	40 000	NA	0 0	0 5	34900	800000	ug/kg
	CH48-009	2084246 910	751117 138	Chromium	27 100	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CH48-009	2084246 910	751117 138	Copper	98 300	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH48-009	2084246 910	751117 138	Iron	28100 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CH48-009	2084246 910	751117 138	Naphthalene	60 000	43 000	NA	0 0	0 5	3090000	NA	ug/kg
	CH48-009	2084246 910	751117 138	Nickel	36 300	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CH48-009	2084246 910	751117 138	Strontium	301 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CH48-009	2084246 910	751117 138	Uranium-234	2 453	1 430	2 3	0 0	0 5	300	1800	pCi/g
	CH48-009	2084246 910	751117 138	Uranium-235	0 172	0 121	0 094	0 0	0 5	8	1900	pCi/g
	CH48-009	2084246 910	751117 138	Uranium-238	2 453	1 430	2 000	0 0	0 5	351	1600	pCi/g
	CH48-009	2084246 910	751117 138	Vanadium	67 500	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CH48-009	2084246 910	751117 138	Zinc	94 100	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CH48-010	2084212 010	751112 810	Barium	760 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CH48-010	2084212 010	751112 810	Copper	70 700	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH48-010	2084212 010	751112 810	Strontium	231 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CH48-010	2084212 010	751112 810	Uranium-234	2 773	1 510	2 3	0 0	0 5	300	1800	pCi/g
	CH48-010	2084212 010	751112 810	Uranium-235	0 234	0 121	0 094	0 0	0 5	8	1900	pCi/g
	CH48-010	2084212 010	751112 810	Uranium-238	2 773	1 510	2 000	0 0	0 5	351	1600	pCi/g
	CH48-010	2084212 010	751112 810	Vanadium	155 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CH48-011	2084297 270	751154 026	Acenaphthene	79 000	51 000	NA	0 0	0 5	40800000	NA	ug/kg
	CH48-011	2084297 270	751154 026	Americium-241	0 437	0 324	0 023	0 0	0 5	76	1900	pCi/g
	CH48-011	2084297 270	751154 026	Anthracene	86 000	74 000	NA	0 0	0 5	204000000	NA	ug/kg
	CH48-011	2084297 270	751154 026	Aroclor-1254	80 000	4 900	NA	0 0	0 5	12400	371000	ug/kg
	CH48-011	2084297 270	751154 026	Arsenic	11 100	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CH48-011	2084297 270	751154 026	Barium	616 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CH48-011	2084297 270	751154 026	Benzo(a)anthracene	230 000	44 000	NA	0 0	0 5	34900	800000	ug/kg
	CH48-011	2084297 270	751154 026	Benzo(a)pyrene	250 000	58 000	NA	0 0	0 5	3490	25700	ug/kg
	CH48-011	2084297 270	751154 026	Benzo(b)fluoranthene	200 000	72 000	NA	0 0	0 5	34900	1010000	ug/kg
	CH48-011	2084297 270	751154 026	Benzo(k)fluoranthene	230 000	77 000	NA	0 0	0 5	349000	1010000	ug/kg
	CH48-011	2084297 270	751154 026	Chromium	37 400	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CH48-011	2084297 270	751154 026	Chrysene	270 000	39 000	NA	0 0	0 5	3490000	NA	ug/kg
	CH48-011	2084297 270	751154 026	Copper	88 400	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH48-011	2084297 270	751154 026	Fluoranthene	600 000	44 000	NA	0 0	0 5	27200000	NA	ug/kg
	CH48-011	2084297 270	751154 026	Indeno(1,2,3-cd)pyrene	140 000	50 000	NA	0 0	0 5	34900	NA	ug/kg
	CH48-011	2084297 270	751154 026	Iron	34300 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CH48-011	2084297 270	751154 026	Manganese	540 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CH48-011	2084297 270	751154 026	Nickel	45 700	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CH48-011	2084297 270	751154 026	Plutonium-239/240	6 774	0 324	0 066	0 0	0 5	50/116	3800	pCi/g
	CH48-011	2084297 270	751154 026	Pyrene	540 000	64 000	NA	0 0	0 5	22100000	NA	ug/kg
	CH48-011	2084297 270	751154 026	Selenium	1 540	1 000	1 224	0 0	0 5	5110	NA	mg/kg
	CH48-011	2084297 270	751154 026	Strontium	136 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CH48-011	2084297 270	751154 026	Uranium-235	0 164	0 085	0 094	0 0	0 5	8	1900	pCi/g
	CH48-011	2084297 270	751154 026	Vanadium	137 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CH48-011	2084297 270	751154 026	Zinc	109 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CH48-012	2084261 430	751149 902	Aroclor-1254	18 000	4 600	NA	0 0	0 5	12400	371000	ug/kg
	CH48-012	2084261 430	751149 902	Arsenic	12 900	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CH48-012	2084261 430	751149 902	Barium	659 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CH48-012	2084261 430	751149 902	Benzo(a)anthracene	120 000	43 000	NA	0 0	0 5	34900	800000	ug/kg
	CH48-012	2084261 430	751149 902	Benzo(a)pyrene	140 000	56 000	NA	0 0	0 5	3490	25700	ug/kg
	CH48-012	2084261 430	751149 902	Benzo(b)fluoranthene	100 000	69 000	NA	0 0	0 5	34900	1010000	ug/kg
	CH48-012	2084261 430	751149 902	Benzo(k)fluoranthene	130 000	74 000	NA	0 0	0 5	349000	1010000	ug/kg
	CH48-012	2084261 430	751149 902	Chromium	34 100	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CH48-012	2084261 430	751149 902	Chrysene	130 000	37 000	NA	0 0	0 5	3490000	NA	ug/kg
	CH48-012	2084261 430	751149 902	Copper	45 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH48-012	2084261 430	751149 902	Fluoranthene	280 000	43 000	NA	0 0	0 5	27200000	NA	ug/kg

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	CH48-012	2084261 430	751149 902	Indeno(1,2,3-cd)pyrene	83 000	48 000	NA	0 0	0 5	34900	NA	ug/kg
	CH48-012	2084261 430	751149 902	Iron	26500 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CH48-012	2084261 430	751149 902	Manganese	372 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CH48-012	2084261 430	751149 902	Nickel	35 000	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CH48-012	2084261 430	751149 902	Pyrene	210 000	61 000	NA	0 0	0 5	22100000	NA	ug/kg
	CH48-012	2084261 430	751149 902	Strontium	181 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CH48-012	2084261 430	751149 902	Uranium-234	3 267	1 520	2 3	0 0	0 5	300	1800	pCi/g
	CH48-012	2084261 430	751149 902	Uranium-235	0 164	0 128	0 094	0 0	0 5	8	1900	pCi/g
	CH48-012	2084261 430	751149 902	Uranium-238	3 267	1 520	2 000	0 0	0 5	351	1600	pCi/g
	CH48-012	2084261 430	751149 902	Vanadium	104 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CH48-012	2084261 430	751149 902	Zinc	102 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CH48-013	2084225 810	751146 003	Barium	659 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CH48-013	2084225 810	751146 003	Copper	86 900	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH48-013	2084225 810	751146 003	Uranium-234	4 264	1 510	2 3	0 0	0 5	300	1800	pCi/g
	CH48-013	2084225 810	751146 003	Uranium-235	0 199	0 112	0 094	0 0	0 5	8	1900	pCi/g
	CH48-013	2084225 810	751146 003	Uranium-238	4 264	1 510	2 000	0 0	0 5	351	1600	pCi/g
	CH48-013	2084225 810	751146 003	Vanadium	129 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CH48-014	2084190 140	751141 918	Aroclor-1254	13 000	4 600	NA	0 0	0 5	12400	371000	ug/kg
	CH48-014	2084190 140	751141 918	Barium	899 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CH48-014	2084190 140	751141 918	Copper	95 600	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH48-014	2084190 140	751141 918	Strontium	290 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CH48-014	2084190 140	751141 918	Uranium-234	4 696	1 680	2 3	0 0	0 5	300	1800	pCi/g
	CH48-014	2084190 140	751141 918	Uranium-235	0 309	0 129	0 094	0 0	0 5	8	1900	pCi/g
	CH48-014	2084190 140	751141 918	Uranium-238	4 696	1 680	2 000	0 0	0 5	351	1600	pCi/g
	CH48-015	2084154 330	751137 920	Arsenic	13 900	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CH48-015	2084154 330	751137 920	Barium	776 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CH48-015	2084154 330	751137 920	Copper	141 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH48-015	2084154 330	751137 920	Iron	72600 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CH48-015	2084154 330	751137 920	Manganese	1580 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CH48-015	2084154 330	751137 920	Uranium-234	3 071	1 540	2 3	0 0	0 5	300	1800	pCi/g

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	CH48-015	2084154 330	751137 920	Uranium-235	0 235	0 128	0 094	0 0	0 5	8	1900	pCi/g
	CH48-015	2084154 330	751137 920	Uranium-238	3 071	1 540	2 000	0 0	0 5	351	1600	pCi/g
	CH48-015	2084154 330	751137 920	Vanadium	196 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CH48-015	2084154 330	751137 920	Zinc	284 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CH49-000	2084311 760	751186 774	2-Methylnaphthalene	110 000	41 000	NA	0 0	0 5	20400000	NA	ug/kg
	CH49-000	2084311 760	751186 774	Acenaphthene	510 000	52 000	NA	0 0	0 5	40800000	NA	ug/kg
	CH49-000	2084311 760	751186 774	Americium-241	0 902	0 436	0 023	0 0	0 5	76	1900	pCi/g
	CH49-000	2084311 760	751186 774	Anthracene	560 000	75 000	NA	0 0	0 5	204000000	NA	ug/kg
	CH49-000	2084311 760	751186 774	Aroclor-1254	46 000	5 000	NA	0 0	0 5	12400	371000	ug/kg
	CH49-000	2084311 760	751186 774	Barium	608 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CH49-000	2084311 760	751186 774	Benzo(a)anthracene	1100 000	45 000	NA	0 0	0 5	34900	800000	ug/kg
	CH49-000	2084311 760	751186 774	Benzo(a)pyrene	1100 000	59 000	NA	0 0	0 5	3490	25700	ug/kg
	CH49-000	2084311 760	751186 774	Benzo(b)fluoranthene	910 000	73 000	NA	0 0	0 5	34900	1010000	ug/kg
	CH49-000	2084311 760	751186 774	Benzo(k)fluoranthene	1000 000	79 000	NA	0 0	0 5	349000	1010000	ug/kg
	CH49-000	2084311 760	751186 774	Chromium	37 400	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CH49-000	2084311 760	751186 774	Chrysene	1300 000	39 000	NA	0 0	0 5	3490000	NA	ug/kg
	CH49-000	2084311 760	751186 774	Copper	137 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH49-000	2084311 760	751186 774	Dibenz(a,h)anthracene	200 000	72 000	NA	0 0	0 5	3490	NA	ug/kg
	CH49-000	2084311 760	751186 774	Dibenzofuran	210 000	58 000	NA	0 0	0 5	2950000	NA	ug/kg
	CH49-000	2084311 760	751186 774	Fluoranthene	3700 000	45 000	NA	0 0	0 5	27200000	NA	ug/kg
	CH49-000	2084311 760	751186 774	Fluorene	360 000	62 000	NA	0 0	0 5	40800000	NA	ug/kg
	CH49-000	2084311 760	751186 774	Indeno(1,2,3-cd)pyrene	620 000	51 000	NA	0 0	0 5	34900	NA	ug/kg
	CH49-000	2084311 760	751186 774	Iron	23800 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CH49-000	2084311 760	751186 774	Naphthalene	320 000	49 000	NA	0 0	0 5	3090000	NA	ug/kg
	CH49-000	2084311 760	751186 774	Nickel	32 100	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CH49-000	2084311 760	751186 774	Plutonium-239/240	10 526	0 436	0 066	0 0	0 5	50/116	3800	pCi/g
	CH49-000	2084311 760	751186 774	Pyrene	2800 000	65 000	NA	0 0	0 5	22100000	NA	ug/kg
	CH49-000	2084311 760	751186 774	Strontium	156 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CH49-000	2084311 760	751186 774	Uranium-234	4 329	1 440	2 3	0 0	0 5	300	1800	pCi/g
	CH49-000	2084311 760	751186 774	Uranium-235	0 241	0 117	0 094	0 0	0 5	8	1900	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CH49-000	2084311 760	751186 774	Uranium-238	4 329	1 440	2 000	0 0	0 5	351	1600	pCi/g
	CH49-000	2084311 760	751186 774	Vanadium	112 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CH49-000	2084311 760	751186 774	Zinc	132 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CH49-001	2084275 820	751182 874	Acenaphthene	210 000	51 000	NA	0 0	0 5	40800000	NA	ug/kg
	CH49-001	2084275 820	751182 874	Americium-241	1 061	0 544	0 023	0 0	0 5	76	1900	pCi/g
	CH49-001	2084275 820	751182 874	Anthracene	240 000	73 000	NA	0 0	0 5	204000000	NA	ug/kg
	CH49-001	2084275 820	751182 874	Aroclor-1254	79 000	4 900	NA	0 0	0 5	12400	371000	ug/kg
	CH49-001	2084275 820	751182 874	Arsenic	12 400	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CH49-001	2084275 820	751182 874	Barium	710 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CH49-001	2084275 820	751182 874	Benzo(a)anthracene	580 000	44 000	NA	0 0	0 5	34900	800000	ug/kg
	CH49-001	2084275 820	751182 874	Benzo(a)pyrene	620 000	58 000	NA	0 0	0 5	3490	25700	ug/kg
	CH49-001	2084275 820	751182 874	Benzo(b)fluoranthene	480 000	71 000	NA	0 0	0 5	34900	1010000	ug/kg
	CH49-001	2084275 820	751182 874	Benzo(k)fluoranthene	640 000	77 000	NA	0 0	0 5	349000	1010000	ug/kg
	CH49-001	2084275 820	751182 874	bis(2-Ethylhexyl)phthalate	110 000	79 000	NA	0 0	0 5	1970000	NA	ug/kg
	CH49-001	2084275 820	751182 874	Chromium	49 000	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CH49-001	2084275 820	751182 874	Chrysene	650 000	38 000	NA	0 0	0 5	3490000	NA	ug/kg
	CH49-001	2084275 820	751182 874	Copper	148 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH49-001	2084275 820	751182 874	Dibenz(a,h)anthracene	120 000	70 000	NA	0 0	0 5	3490	NA	ug/kg
	CH49-001	2084275 820	751182 874	Dibenzofuran	67 000	56 000	NA	0 0	0 5	2950000	NA	ug/kg
	CH49-001	2084275 820	751182 874	Fluoranthene	1800 000	44 000	NA	0 0	0 5	27200000	NA	ug/kg
	CH49-001	2084275 820	751182 874	Fluorene	150 000	61 000	NA	0 0	0 5	40800000	NA	ug/kg
	CH49-001	2084275 820	751182 874	Indeno(1,2,3-cd)pyrene	370 000	50 000	NA	0 0	0 5	34900	NA	ug/kg
	CH49-001	2084275 820	751182 874	Iron	31300 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CH49-001	2084275 820	751182 874	Manganese	600 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CH49-001	2084275 820	751182 874	Naphthalene	70 000	47 000	NA	0 0	0 5	3090000	NA	ug/kg
	CH49-001	2084275 820	751182 874	Nickel	41 100	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CH49-001	2084275 820	751182 874	Plutonium-239/240	11 813	0 544	0 066	0 0	0 5	50/116	3800	pCi/g
	CH49-001	2084275 820	751182 874	Pyrene	1200 000	63 000	NA	0 0	0 5	22100000	NA	ug/kg
	CH49-001	2084275 820	751182 874	Strontium	174 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CH49-001	2084275 820	751182 874	Uranium-234	3 120	1 690	2 3	0 0	0 5	300	1800	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CH49-001	2084275 820	751182 874	Uranium-235	0 189	0 133	0 094	0 0	0 5	8	1900	pCi/g
	CH49-001	2084275 820	751182 874	Uranium-238	3 120	1 690	2 000	0 0	0 5	351	1600	pCi/g
	CH49-001	2084275 820	751182 874	Vanadium	97 100	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CH49-001	2084275 820	751182 874	Zinc	282 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CH49-002	2084255 123	751190 066	Acenaphthene	90 000	51 000	NA	0 0	0 5	40800000	NA	ug/kg
	CH49-002	2084255 123	751190 066	Americium-241	0 453	0 226	0 023	0 0	0 5	76	1900	pCi/g
	CH49-002	2084255 123	751190 066	Anthracene	110 000	73 000	NA	0 0	0 5	204000000	NA	ug/kg
	CH49-002	2084255 123	751190 066	Aroclor-1254	65 000	4 900	NA	0 0	0 5	12400	371000	ug/kg
	CH49-002	2084255 123	751190 066	Aroclor-1260	74 000	5 500	NA	0 0	0 5	12400	NA	ug/kg
	CH49-002	2084255 123	751190 066	Arsenic	13 000	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CH49-002	2084255 123	751190 066	Barium	610 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CH49-002	2084255 123	751190 066	Benzo(a)anthracene	370 000	44 000	NA	0 0	0 5	34900	800000	ug/kg
	CH49-002	2084255 123	751190 066	Benzo(a)pyrene	380 000	58 000	NA	0 0	0 5	3490	25700	ug/kg
	CH49-002	2084255 123	751190 066	Benzo(b)fluoranthene	350 000	71 000	NA	0 0	0 5	34900	1010000	ug/kg
	CH49-002	2084255 123	751190 066	Benzo(k)fluoranthene	330 000	77 000	NA	0 0	0 5	349000	1010000	ug/kg
	CH49-002	2084255 123	751190 066	Chromium	56 400	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CH49-002	2084255 123	751190 066	Chrysene	430 000	38 000	NA	0 0	0 5	3490000	NA	ug/kg
	CH49-002	2084255 123	751190 066	Copper	101 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH49-002	2084255 123	751190 066	Dibenz(a,h)anthracene	110 000	70 000	NA	0 0	0 5	3490	NA	ug/kg
	CH49-002	2084255 123	751190 066	Fluoranthene	880 000	44 000	NA	0 0	0 5	27200000	NA	ug/kg
	CH49-002	2084255 123	751190 066	Fluorene	63 000	61 000	NA	0 0	0 5	40800000	NA	ug/kg
	CH49-002	2084255 123	751190 066	Indeno(1,2,3-cd)pyrene	230 000	50 000	NA	0 0	0 5	34900	NA	ug/kg
	CH49-002	2084255 123	751190 066	Iron	30600 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CH49-002	2084255 123	751190 066	Manganese	405 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CH49-002	2084255 123	751190 066	Nickel	38 700	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CH49-002	2084255 123	751190 066	Plutonium-239/240	0 260	0 074	0 066	0 0	0 5	50	3800	pCi/g
	CH49-002	2084255 123	751190 066	Pyrene	830 000	63 000	NA	0 0	0 5	22100000	NA	ug/kg
	CH49-002	2084255 123	751190 066	Strontium	148 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CH49-002	2084255 123	751190 066	Vanadium	143 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CH49-002	2084255 123	751190 066	Zinc	180 000	0 610	73 760	0 0	0 5	307000	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CH49-003	2084206 550	751164 908	Arsenic	11 300	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CH49-003	2084206 550	751164 908	Barium	618 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CH49-003	2084206 550	751164 908	Chromium	40 600	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CH49-003	2084206 550	751164 908	Copper	76 300	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH49-003	2084206 550	751164 908	Iron	28400 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CH49-003	2084206 550	751164 908	Nickel	37 300	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CH49-003	2084206 550	751164 908	Strontium	128 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CH49-003	2084206 550	751164 908	Uranium-234	2 736	1 610	2 3	0 0	0 5	300	1800	pCi/g
	CH49-003	2084206 550	751164 908	Uranium-235	0 258	0 145	0 094	0 0	0 5	8	1900	pCi/g
	CH49-003	2084206 550	751164 908	Uranium-238	2 736	1 610	2 000	0 0	0 5	351	1600	pCi/g
	CH49-003	2084206 550	751164 908	Vanadium	135 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CH49-003	2084206 550	751164 908	Zinc	97 300	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CH49-004	2084218 870	751207 841	Acenaphthene	100 000	50 000	NA	0 0	0 5	40800000	NA	ug/kg
	CH49-004	2084218 870	751207 841	Americium-241	0 882	0 503	0 023	0 0	0 5	76	1900	pCi/g
	CH49-004	2084218 870	751207 841	Anthracene	150 000	72 000	NA	0 0	0 5	204000000	NA	ug/kg
	CH49-004	2084218 870	751207 841	Aroclor-1254	86 000	4 800	NA	0 0	0 5	12400	371000	ug/kg
	CH49-004	2084218 870	751207 841	Aroclor-1260	29 000	5 300	NA	0 0	0 5	12400	NA	ug/kg
	CH49-004	2084218 870	751207 841	Arsenic	10 900	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CH49-004	2084218 870	751207 841	Barium	731 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CH49-004	2084218 870	751207 841	Benzo(a)anthracene	440 000	43 000	NA	0 0	0 5	34900	800000	ug/kg
	CH49-004	2084218 870	751207 841	Benzo(a)pyrene	460 000	56 000	NA	0 0	0 5	3490	25700	ug/kg
	CH49-004	2084218 870	751207 841	Benzo(b)fluoranthene	390 000	69 000	NA	0 0	0 5	34900	1010000	ug/kg
	CH49-004	2084218 870	751207 841	Benzo(k)fluoranthene	440 000	75 000	NA	0 0	0 5	349000	1010000	ug/kg
	CH49-004	2084218 870	751207 841	Chromium	44 200	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CH49-004	2084218 870	751207 841	Chrysene	490 000	37 000	NA	0 0	0 5	3490000	NA	ug/kg
	CH49-004	2084218 870	751207 841	Copper	82 700	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CH49-004	2084218 870	751207 841	Dibenz(a,h)anthracene	90 000	68 000	NA	0 0	0 5	3490	NA	ug/kg
	CH49-004	2084218 870	751207 841	Fluoranthene	1300 000	43 000	NA	0 0	0 5	27200000	NA	ug/kg
	CH49-004	2084218 870	751207 841	Fluorene	79 000	60 000	NA	0 0	0 5	40800000	NA	ug/kg
	CH49-004	2084218 870	751207 841	Indeno(1,2,3-cd)pyrene	290 000	49 000	NA	0 0	0 5	34900	NA	ug/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CH49-004	2084218 870	751207 841	Iron	28600 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CH49-004	2084218 870	751207 841	Manganese	411 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CH49-004	2084218 870	751207 841	Nickel	35 800	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CH49-004	2084218 870	751207 841	Plutonium-239/240	10 366	0 503	0 066	0 0	0 5	50/116	3800	pCi/g
	CH49-004	2084218 870	751207 841	Pyrene	830 000	62 000	NA	0 0	0 5	22100000	NA	ug/kg
	CH49-004	2084218 870	751207 841	Strontium	169 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CH49-004	2084218 870	751207 841	Uranium-234	3 438	1 720	2 3	0 0	0 5	300	1800	pCi/g
	CH49-004	2084218 870	751207 841	Uranium-235	0 265	0 135	0 094	0 0	0 5	8	1900	pCi/g
	CH49-004	2084218 870	751207 841	Uranium-238	3 438	1 720	2 000	0 0	0 5	351	1600	pCi/g
	CH49-004	2084218 870	751207 841	Vanadium	131 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CH49-004	2084218 870	751207 841	Zinc	168 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
700-150 1 - Radioactive Site North of Building 771	CE48-020	2083638 880	751148 925	Arsenic	16 500	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CE48-020	2083638 880	751148 925	Barium	666 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-020	2083638 880	751148 925	Chromium	33 300	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE48-020	2083638 880	751148 925	Copper	67 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-020	2083638 880	751148 925	Iron	35600 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE48-020	2083638 880	751148 925	Manganese	366 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE48-020	2083638 880	751148 925	Nickel	50 000	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE48-020	2083638 880	751148 925	Strontium	209 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE48-020	2083638 880	751148 925	Uranium-234	4 778	2 880	2 3	0 0	0 5	300	1800	pCi/g
	CE48-020	2083638 880	751148 925	Uranium-238	4 778	2 880	2 000	0 0	0 5	351	1600	pCi/g
	CE48-020	2083638 880	751148 925	Vanadium	91 900	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE48-021	2083674 709	751144 933	Barium	844 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE48-021	2083674 709	751144 933	Chromium	20 100	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE48-021	2083674 709	751144 933	Copper	65 600	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE48-021	2083674 709	751144 933	Iron	24600 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE48-021	2083674 709	751144 933	Nickel	27 200	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE48-021	2083674 709	751144 933	Strontium	295 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE48-021	2083674 709	751144 933	Uranium-234	4 365	1 840	2 3	0 0	0 5	300	1800	pCi/g
	CE48-021	2083674 709	751144 933	Uranium-235	0 251	0 129	0 094	0 0	0 5	8	1900	pCi/g
	CE48-021	2083674 709	751144 933	Uranium-238	4 365	1 840	2 000	0 0	0 5	351	1600	pCi/g
	CE49-001	2083624 420	751181 970	Barium	917 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE49-001	2083624 420	751181 970	Chromium	34 500	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE49-001	2083624 420	751181 970	Copper	100 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE49-001	2083624 420	751181 970	Iron	30700 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE49-001	2083624 420	751181 970	Manganese	600 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE49-001	2083624 420	751181 970	Nickel	34 100	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE49-001	2083624 420	751181 970	Strontium	303 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE49-001	2083624 420	751181 970	Uranium-234	2 251	1 260	2 000	0 0	0 5	300	1800	pCi/g
	CE49-001	2083624 420	751181 970	Uranium-238	2 251	1 260	2 000	0 0	0 5	351	1600	pCi/g
	CE49-001	2083624 420	751181 970	Vanadium	57 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE49-001	2083624 420	751181 970	Zinc	80 900	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE49-002	2083650 888	751168 089	Barium	709 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE49-002	2083650 888	751168 089	Chromium	44 000	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE49-002	2083650 888	751168 089	Copper	63 900	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE49-002	2083650 888	751168 089	Iron	36900 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE49-002	2083650 888	751168 089	Manganese	572 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE49-002	2083650 888	751168 089	Nickel	35 700	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE49-002	2083650 888	751168 089	Strontium	244 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE49-002	2083650 888	751168 089	Uranium-234	3 746	1 750	2 3	0 0	0 5	300	1800	pCi/g
	CE49-002	2083650 888	751168 089	Uranium-235	0 230	0 178	0 094	0 0	0 5	8	1900	pCi/g
	CE49-002	2083650 888	751168 089	Uranium-238	3 746	1 750	2 000	0 0	0 5	351	1600	pCi/g
	CE49-002	2083650 888	751168 089	Vanadium	96 500	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE49-002	2083650 888	751168 089	Zinc	98 300	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE49-003	2083646 300	751210 967	Barium	835 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE49-003	2083646 300	751210 967	Chromium	44 700	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE49-003	2083646 300	751210 967	Copper	95 100	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE49-003	2083646 300	751210 967	Iron	30500 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE49-003	2083646 300	751210 967	Manganese	689 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE49-003	2083646 300	751210 967	Nickel	41 600	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE49-003	2083646 300	751210 967	Strontium	239 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE49-003	2083646 300	751210 967	Uranium-234	5 052	1 890	2 3	0 0	0 5	300	1800	pCi/g
	CE49-003	2083646 300	751210 967	Uranium-238	5 052	1 890	2 000	0 0	0 5	351	1600	pCi/g
	CE49-003	2083646 300	751210 967	Vanadium	63 200	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE49-003	2083646 300	751210 967	Zinc	379 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE49-004	2083696 240	751173 715	Barium	605 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE49-004	2083696 240	751173 715	Copper	149 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE49-004	2083696 240	751173 715	Uranium-234	6 175	1 430	2 3	0 0	0 5	300	1800	pCi/g
	CE49-004	2083696 240	751173 715	Uranium-235	0 338	0 124	0 094	0 0	0 5	8	1900	pCi/g
	CE49-004	2083696 240	751173 715	Uranium-238	6 175	1 430	2 000	0 0	0 5	351	1600	pCi/g
	CE49-004	2083696 240	751173 715	Vanadium	214 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE49-005	2083682 020	751206 724	Barium	709 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE49-005	2083682 020	751206 724	Chromium	42 300	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE49-005	2083682 020	751206 724	Copper	88 900	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE49-005	2083682 020	751206 724	Iron	31200 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE49-005	2083682 020	751206 724	Manganese	589 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE49-005	2083682 020	751206 724	Nickel	39 900	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE49-005	2083682 020	751206 724	Strontium	276 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE49-005	2083682 020	751206 724	Uranium-234	3 923	1 530	2 3	0 0	0 5	300	1800	pCi/g
	CE49-005	2083682 020	751206 724	Uranium-235	0 328	0 152	0 094	0 0	0 5	8	1900	pCi/g
	CE49-005	2083682 020	751206 724	Uranium-238	3 923	1 530	2 000	0 0	0 5	351	1600	pCi/g
	CE49-005	2083682 020	751206 724	Vanadium	95 600	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE49-005	2083682 020	751206 724	Zinc	412 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE49-006	2083732 180	751169 396	Barium	974 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE49-006	2083732 180	751169 396	Copper	81 800	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE49-006	2083732 180	751169 396	Iron	32100 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE49-006	2083732 180	751169 396	Manganese	666 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE49-006	2083732 180	751169.396	Nickel	37 600	12 000	14 910	0 0	0 5	20400	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE49-006	2083732 180	751169 396	Strontium	361 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE49-006	2083732 180	751169 396	Uranium-234	4 564	1 910	2 3	0 0	0 5	300	1800	pCi/g
	CE49-006	2083732 180	751169 396	Uranium-235	0 247	0 197	0 094	0 0	0 5	8	1900	pCi/g
	CE49-006	2083732 180	751169 396	Uranium-238	4 564	1 910	2 000	0 0	0 5	351	1600	pCi/g
	CE49-006	2083732 180	751169 396	Zinc	87 400	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CE49-007	2083720 658	751210 142	Barium	613 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CE49-007	2083720 658	751210 142	Chromium	54 200	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CE49-007	2083720 658	751210 142	Copper	240 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CE49-007	2083720 658	751210 142	Iron	25800 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CE49-007	**2083720 658**	**751210 142**	**Lead**	**63 900**	**7 000**	**54 620**	**0 0**	**0 5**	**1000**	**25.6**	**mg/kg**
	CE49-007	2083720 658	751210 142	Manganese	407 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CE49-007	2083720 658	751210 142	Nickel	35 000	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CE49-007	2083720 658	751210 142	Strontium	215 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CE49-007	2083720 658	751210 142	Uranium-234	3 201	1 440	2 3	0 0	0 5	300	1800	pCi/g
	CE49-007	2083720 658	751210 142	Uranium-238	3 201	1 440	2 000	0 0	0 5	351	1600	pCi/g
	CE49-007	2083720 658	751210 142	Vanadium	102 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CE49-007	2083720 658	751210 142	Zinc	431 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CF48-014	2083803 550	751161 121	Barium	772 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CF48-014	2083803 550	751161 121	Copper	43 900	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CF48-014	2083803 550	751161 121	Nickel	37 500	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CF48-014	2083803 550	751161 121	Strontium	328 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CF48-014	2083803 550	751161 121	Tin	4 540	4 000	NA	0 0	0 5	613000	NA	mg/kg
	CF48-014	2083803 550	751161 121	Uranium-234	3 670	1 810	2 3	0 0	0 5	300	1800	pCi/g
	CF48-014	2083803 550	751161 121	Uranium-238	3 670	1 810	2 000	0 0	0 5	351	1600	pCi/g
	CF48-014	2083803 550	751161 121	Vanadium	104 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CF48-015	2083840 368	751160 778	Arsenic	21 000	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF48-015	2083840 368	751160 778	Barium	678 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CF48-015	2083840 368	751160 778	Chromium	30 700	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CF48-015	2083840 368	751160 778	Copper	169 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CF48-015	2083840 368	751160 778	Iron	42200 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CF48-015	2083840 368	751160 778	Manganese	659 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CF48-015	2083840 368	751160 778	Nickel	57 700	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CF48-015	2083840 368	751160 778	Strontium	241 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CF48-015	2083840 368	751160 778	Uranium-234	3 533	1 600	2 3	0 0	0 5	300	1800	pCi/g
	CF48-015	2083840 368	751160 778	Uranium-238	3 533	1 600	2 000	0 0	0 5	351	1600	pCi/g
	CF48-015	2083840 368	751160 778	Vanadium	130 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CF48-015	2083840 368	751160 778	Zinc	106 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CF49-000	**2083767 890**	**751164 972**	**Arsenic**	**22 800**	**5 000**	**10 090**	**0 0**	**0 5**	**22 2**	**21 6**	**mg/kg**
	CF49-000	2083767 890	751164 972	Barium	682 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CF49-000	2083767 890	751164 972	Copper	79 500	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CF49-000	2083767 890	751164 972	Uranium-234	4 626	1 720	2 3	0 0	0 5	300	1800	pCi/g
	CF49-000	2083767 890	751164 972	Uranium-235	0 248	0 139	0 094	0 0	0 5	8	1900	pCi/g
	CF49-000	2083767 890	751164 972	Uranium-238	4 626	1 720	2 000	0 0	0 5	351	1600	pCi/g
	CF49-000	2083767 890	751164 972	Vanadium	121 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CF49-001	2083753 470	751198 358	Arsenic	11 700	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF49-001	2083753 470	751198 358	Barium	825 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CF49-001	2083753 470	751198 358	Chromium	34 200	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CF49-001	2083753 470	751198 358	Copper	115 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CF49-001	2083753 470	751198 358	Iron	32600 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CF49-001	2083753 470	751198 358	Manganese	623 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CF49-001	2083753 470	751198 358	Nickel	38 100	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CF49-001	2083753 470	751198 358	Strontium	271 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CF49-001	2083753 470	751198 358	Uranium-235	0 128	0 099	0 094	0 0	0 5	8	1900	pCi/g
	CF49-001	2083753 470	751198 358	Vanadium	97 700	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CF49-001	2083753 470	751198 358	Zinc	111 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CF49-002	2083789 140	751194 007	Barium	796 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CF49-002	2083789 140	751194 007	Chromium	28 700	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CF49-002	2083789 140	751194 007	Copper	94 400	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CF49-002	2083789 140	751194 007	Iron	29400 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CF49-002	2083789 140	751194 007	Manganese	420 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CF49-002	2083789 140	751194 007	Nickel	36 100	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CF49-002	2083789 140	751194 007	Strontium	294 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CF49-002	2083789 140	751194 007	Uranium-234	4 051	1 610	2 3	0 0	0 5	300	1800	pCi/g
	CF49-002	2083789 140	751194 007	Uranium-235	0 213	0 161	0 094	0 0	0 5	8	1900	pCi/g
	CF49-002	2083789 140	751194 007	Uranium-238	4 051	1 610	2 000	0 0	0 5	351	1600	pCi/g
	CF49-002	2083789 140	751194 007	Vanadium	70 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CF49-002	2083789 140	751194 007	Zinc	84 300	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CF49-003	2083825 105	751189 756	Arsenic	13 300	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF49-003	2083825 105	751189 756	Barium	845 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CF49-003	2083825 105	751189 756	Chromium	51 500	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CF49-003	2083825 105	751189 756	Copper	116 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CF49-003	2083825 105	751189 756	Iron	36200 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CF49-003	2083825 105	751189 756	Manganese	656 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CF49-003	2083825 105	751189 756	Nickel	42 900	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CF49-003	2083825 105	751189 756	Strontium	258 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CF49-003	2083825 105	751189 756	Uranium-234	3 742	1 970	2 3	0 0	0 5	300	1800	pCi/g
	CF49-003	2083825 105	751189 756	Uranium-235	0 226	0 138	0 094	0 0	0 5	8	1900	pCi/g
	CF49-003	2083825 105	751189 756	Uranium-238	3 742	1 970	2 000	0 0	0 5	351	1600	pCi/g
	CF49-003	2083825 105	751189 756	Vanadium	94 500	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CF49-003	2083825 105	751189 756	Zinc	156 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CF49-004	2083860 692	751185 588	Arsenic	14 300	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF49-004	2083860 692	751185 588	Barium	791 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CF49-004	2083860 692	751185 588	Chromium	41 700	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CF49-004	2083860 692	751185 588	Copper	185 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CF49-004	2083860 692	751185 588	Iron	35000 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CF49-004	2083860 692	751185 588	Manganese	760 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CF49-004	2083860 692	751185 588	Nickel	48 200	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CF49-004	2083860 692	751185 588	Strontium	273 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CF49-004	2083860 692	751185 588	Uranium-234	4 554	2 020	2 3	0 0	0 5	300	1800	pCi/g
	CF49-004	2083860 692	751185 588	Uranium-238	4 554	2 020	2 000	0 0	0 5	351	1600	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CF49-004	2083860 692	751185 588	Vanadium	109 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CF49-004	2083860 692	751185 588	Zinc	159 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CF49-005	**2083896 613**	**751181 495**	**Arsenic**	**30 000**	**5 000**	**10 090**	**0 0**	**0 5**	**22 2**	**21 6**	**mg/kg**
	CF49-005	2083896 613	751181 495	Barium	553 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CF49-005	2083896 613	751181 495	Chromium	25 600	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CF49-005	2083896 613	751181 495	Copper	57 600	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CF49-005	2083896 613	751181 495	Nickel	15 500	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CF49-005	2083896 613	751181 495	Strontium	374 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CF49-005	2083896 613	751181 495	Uranium-234	2 723	1 280	2 3	0 0	0 5	300	1800	pCi/g
	CF49-005	2083896 613	751181 495	Uranium-235	0 122	0 085	0 094	0 0	0 5	8	1900	pCi/g
	CF49-005	2083896 613	751181 495	Uranium-238	2 723	1 280	2 000	0 0	0 5	351	1600	pCi/g
	CF49-005	2083896 613	751181 495	Vanadium	67 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CF49-006	2083875 213	751218 148	Barium	750 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CF49-006	2083875 213	751218 148	Chromium	55 200	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CF49-006	2083875 213	751218 148	Copper	105 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CF49-006	2083875 213	751218 148	Iron	33700 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CF49-006	2083875 213	751218 148	Manganese	468 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CF49-006	2083875 213	751218 148	Nickel	38 600	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CF49-006	2083875 213	751218 148	Strontium	267 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CF49-006	2083875 213	751218 148	Uranium-234	4 142	1 740	2 3	0 0	0 5	300	1800	pCi/g
	CF49-006	2083875 213	751218 148	Uranium-238	4 142	1 740	2 000	0 0	0 5	351	1600	pCi/g
	CF49-006	2083875 213	751218 148	Vanadium	120 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CF49-006	2083875 213	751218 148	Zinc	124 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CF49-007	2083932 293	751177 223	Arsenic	11 800	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF49-007	2083932 293	751177 223	Barium	635 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CF49-007	2083932 293	751177 223	Chromium	46 700	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CF49-007	2083932 293	751177 223	Copper	161 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CF49-007	2083932 293	751177 223	Iron	36100 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CF49-007	2083932 293	751177 223	Manganese	402 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CF49-007	2083932 293	751177 223	Nickel	47 300	12 000	14 910	0 0	0 5	20400	NA	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CF49-007	2083932 293	751177 223	Strontium	214 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CF49-007	2083932 293	751177 223	Uranium-235	0 415	0 230	0 094	0 0	0 5	8	1900	pCi/g
	CF49-007	2083932 293	751177 223	Uranium-238	2 105	1 730	2 000	0 0	0 5	351	1600	pCi/g
	CF49-007	2083932 293	751177 223	Vanadium	152 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CF49-007	2083932 293	751177 223	Zinc	146 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CF49-008	2083918 682	751210.291	Arsenic	10 200	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF49-008	2083918 682	751210 291	Barium	876 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CF49-008	2083918 682	751210 291	Chromium	32 900	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CF49-008	2083918 682	751210 291	Copper	135 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CF49-008	2083918 682	751210 291	Iron	33100 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CF49-008	2083918 682	751210 291	Manganese	1060 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CF49-008	2083918 682	751210 291	Nickel	39 700	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CF49-008	2083918 682	751210 291	Strontium	336 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CF49-008	2083918 682	751210 291	Uranium-234	3 660	1 530	2 3	0 0	0 5	300	1800	pCi/g
	CF49-008	2083918 682	751210 291	Uranium-235	0 292	0 157	0 094	0 0	0 5	8	1900	pCi/g
	CF49-008	2083918 682	751210 291	Uranium-238	3 660	1 530	2 000	0 0	0 5	351	1600	pCi/g
	CF49-008	2083918 682	751210 291	Vanadium	53 300	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CF49-008	2083918 682	751210 291	Zinc	119 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CF49-009	2083903 515	751243 420	Arsenic	16 200	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF49-009	2083903 515	751243 420	Barium	793 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CF49-009	2083903 515	751243 420	Chromium	27 000	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CF49-009	2083903 515	751243 420	Copper	85 300	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CF49-009	2083903 515	751243 420	Iron	32400 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CF49-009	2083903 515	751243 420	Manganese	657 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CF49-009	2083903 515	751243 420	Nickel	44 900	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CF49-009	2083903 515	751243 420	Strontium	222 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CF49-009	2083903 515	751243 420	Uranium-234	3 938	1 740	2 3	0 0	0 5	300	1800	pCi/g
	CF49-009	2083903 515	751243 420	Uranium-235	0 275	0 172	0 094	0 0	0 5	8	1900	pCi/g
	CF49-009	2083903 515	751243 420	Uranium-238	3 938	1 740	2 000	0 0	0 5	351	1600	pCi/g
	CF49-009	2083903 515	751243 420	Vanadium	112 000	31 000	45 590	0 0	0 5	7150	433	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CF49-009	2083903 515	751243 420	Zinc	150 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CG49-000	2083967 920	751173 028	Barium	537 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CG49-000	2083967 920	751173 028	Copper	108 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CG49-000	2083967 920	751173 028	Uranium-234	4 010	1 480	2 3	0 0	0 5	300	1800	pCi/g
	CG49-000	2083967 920	751173 028	Uranium-235	0 262	0 136	0 094	0 0	0 5	8	1900	pCi/g
	CG49-000	2083967 920	751173 028	Uranium-238	4 010	1 480	2 000	0 0	0 5	351	1600	pCi/g
	CG49-000	2083967 920	751173 028	Vanadium	177 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CG49-001	2083953 892	751206 161	Arsenic	10 200	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CG49-001	2083953 892	751206 161	Barium	544 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CG49-001	2083953 892	751206 161	Chromium	58 500	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CG49-001	2083953 892	751206 161	Copper	131 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CG49-001	2083953 892	751206 161	Iron	29000 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CG49-001	2083953 892	751206 161	Nickel	39 100	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CG49-001	2083953 892	751206 161	Strontium	141 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CG49-001	2083953 892	751206 161	Uranium-234	5 308	1 740	2 3	0 0	0 5	300	1800	pCi/g
	CG49-001	2083953 892	751206 161	Uranium-235	0 192	0 122	0 094	0 0	0 5	8	1900	pCi/g
	CG49-001	2083953 892	751206 161	Uranium-238	5 308	1 740	2 000	0 0	0 5	351	1600	pCi/g
	CG49-001	2083953 892	751206 161	Vanadium	196 000	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CG49-001	2083953 892	751206 161	Zinc	148 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
700-163 2 - Radioactive Site 700 Area 3 Americium (Am) Slab	CF49-012	2083831 387	751305 176	Uranium-234	4 343	1 520	2 3	0 0	0 5	300	1800	pCi/g
	CF49-012	2083831 387	751305 176	Uranium-235	0 229	0 125	0 094	0 0	0 5	8	1900	pCi/g
	CF49-012	2083831 387	751305 176	Uranium-238	4 343	1 520	2 000	0 0	0 5	351	1600	pCi/g
	CF49-012	2083831 387	751305 176	Uranium-234	4 237	1 590	2 6	0 5	2 5	300	1800	pCi/g
	CF49-012	2083831 387	751305 176	Uranium-238	4 237	1 590	1 49	0 5	2 5	351	1600	pCi/g
	CF49-012	2083831 387	751305 176	Uranium-235	0 196	0 108	0 12	2 5	4 5	8	1900	pCi/g
	CF49-012	2083831 387	751305 176	Plutonium-239/240	0 043	0 018	0 02	6 5	8 5	50/116	3800	pCi/g
	CF49-013	2083853 434	751304 939	Uranium-235	0 106	0 103	0 094	0 0	0 5	8	1900	pCi/g
	CF49-013	2083853 434	751304 939	Uranium-234	4 815	1 560	2 6	0 5	2 5	300	1800	pCi/g
	CF49-013	2083853 434	751304 939	Uranium-238	4 815	1 560	1 49	0 5	2 5	351	1600	pCi/g
	CF49-013	2083853 434	751304 939	Uranium-235	0 249	0 118	0 12	2 5	4 5	8	1900	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CF49-014	2083853 422	751286 076	Uranium-234	3 041	1 400	2 3	0 0	0 5	300	1800	pCi/g
	CF49-014	2083853 422	751286 076	Uranium-235	0 185	0 126	0 094	0 0	0 5	8	1900	pCi/g
	CF49-014	2083853 422	751286 076	Uranium-238	3 041	1 400	2 000	0 0	0 5	351	1600	pCi/g
	CF49-014	2083853 422	751286 076	Uranium-234	3 316	1 540	2 6	0 5	2 5	300	1800	pCi/g
	CF49-014	2083853 422	751286 076	Uranium-235	0 208	0 116	0 12	0 5	2 5	8	1900	pCi/g
	CF49-014	2083853 422	751286 076	Uranium-238	3 316	1 540	1 49	0 5	2 5	351	1600	pCi/g
	CF49-015	2083831 756	751285 175	Uranium-234	2 113	1 470	2 000	0 0	0 5	300	1800	pCi/g
	CF49-015	2083831 756	751285 175	Uranium-238	2 113	1 470	2 000	0 0	0 5	351	1600	pCi/g
	CF49-015	2083831 756	751285 175	Uranium-235	0 346	0 107	0 12	0 5	2 5	8	1900	pCi/g
	CF49-015	2083831 756	751285 175	Uranium-234	4 078	1 650	2 6	0 5	2 5	300	1800	pCi/g
	CF49-015	2083831 756	751285 175	Uranium-238	4 078	1 650	1 49	0 5	2 5	351	1600	pCi/g
	CF49-015	2083831 756	751285 175	Uranium-235	0 129	0 055	0 12	4 5	6 5	8	1900	pCi/g
	CF49-016	2083842 564	751295 677	Uranium-234	4 056	1 680	2 3	0 0	0 5	300	1800	pCi/g
	CF49-016	2083842 564	751295 677	Uranium-235	0 226	0 144	0 094	0 0	0 5	8	1900	pCi/g
	CF49-016	2083842 564	751295 677	Uranium-238	4 056	1 680	2 000	0 0	0 5	351	1600	pCi/g
	CF49-016	2083842 564	751295 677	Uranium-234	5 394	1 490	2 6	2 5	4 5	300	1800	pCi/g
	CF49-016	2083842 564	751295 677	Uranium-235	0 271	0 139	0 12	2 5	4 5	8	1900	pCi/g
	CF49-016	2083842 564	751295 677	Uranium-238	5 394	1 490	1 49	2 5	4 5	351	1600	pCi/g
700-139 1(N)(b) - Hydroxide Tank, KOH, NaOH Condensate	CG48-015	2084126 519	751119 415	Aluminum	25000 000	2 900	16902 000	0 0	0 5	228000	NA	mg/kg
	CG48-015	2084126 519	751119 415	Arsenic	13 900	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CG48-015	2084126 519	751119 415	Barium	549 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CG48-015	2084126 519	751119 415	Beryllium	1 000	0 046	0 966	0 0	0 5	921	2 15	mg/kg
	CG48-015	2084126 519	751119 415	Chromium	39 600	0 098	16 990	0 0	0 5	268	NA	mg/kg
	CG48-015	2084126 519	751119 415	Copper	189 000	0 260	18 060	0 0	0 5	40900	NA	mg/kg
	CG48-015	2084126 519	751119 415	Iron	32500 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CG48-015	2084126 519	751119 415	Lithium	14 000	0 150	11 550	0 0	0 5	20400	NA	mg/kg
	CG48-015	2084126 519	751119 415	Nickel	44 900	0 250	14 910	0 0	0 5	20400	NA	mg/kg
	CG48-015	2084126 519	751119 415	Strontium	162 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CG48-015	2084126 519	751119 415	Uranium-234	4 700	1 800	2 3	0 0	0 5	300	1800	pCi/g
	CG48-015	2084126 519	751119 415	Uranium-238	4 700	1 800	2 000	0 0	0 5	351	1600	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CG48-015	2084126 519	751119 415	Vanadium	164 000	0 190	45 590	0 0	0 5	7150	433	mg/kg
	CG48-015	2084126 519	751119 415	Zinc	162 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CG48-015	2084126 519	751119 415	Arsenic	15 300	5 000	13 14	0 5	2 5	22 2	21 6	mg/kg
	CG48-015	2084126 519	751119 415	Barium	699 000	98 000	289 38	0 5	2 5	26400	NA	mg/kg
	CG48-015	2084126 519	751119 415	Copper	129 000	4 000	38 21	0 5	2 5	40900	NA	mg/kg
	CG48-015	2084126 519	751119 415	Uranium-238	4 819	1 460	1 49	0 5	2 5	351	1600	pCi/g
	CG48-015	2084126 519	751119 415	Vanadium	168 000	31 000	88 49	0 5	2 5	7150	433	mg/kg
	CG48-015	2084126 519	751119 415	Zinc	181 000	9 000	139 1	0 5	2 5	307000	NA	mg/kg
IHSS 139 2 – Caustic/Acid Spills Hydrofluoric Tank	CF47-006	2083896 080	750802 462	Arsenic	17 300	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF47-006	2083896 080	750802 462	Barium	805 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CF47-006	2083896 080	750802 462	Chromium	45 400	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CF47-006	2083896 080	750802 462	Copper	118 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CF47-006	2083896 080	750802 462	Iron	35900 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CF47-006	2083896 080	750802 462	Manganese	591 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CF47-006	2083896 080	750802 462	Nickel	63 900	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CF47-006	2083896 080	750802 462	Strontium	189 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CF47-006	2083896 080	750802 462	Uranium-234	4 927	1 630	2 3	0 0	0 5	300	1800	pCi/g
	CF47-006	2083896 080	750802 462	Uranium-235	0 223	0 132	0 094	0 0	0 5	8	1900	pCi/g
	CF47-006	2083896 080	750802 462	Uranium-238	4 927	1 630	2 000	0 0	0 5	351	1600	pCi/g
	CF47-006	2083896 080	750802 462	Vanadium	92 400	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CF47-006	2083896 080	750802 462	Zinc	175 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
	CF47-007	2083914 330	750788 070	Arsenic	10 400	5 000	10 090	0 0	0 5	22 2	21 6	mg/kg
	CF47-007	2083914 330	750788 070	Barium	777 000	98 000	141 260	0 0	0 5	26400	NA	mg/kg
	CF47-007	2083914 330	750788 070	Chromium	31 000	20 000	16 990	0 0	0 5	268	NA	mg/kg
	CF47-007	2083914 330	750788 070	Copper	116 000	4 000	18 060	0 0	0 5	40900	NA	mg/kg
	CF47-007	2083914 330	750788 070	Iron	29700 000	2190 000	18037 000	0 0	0 5	307000	NA	mg/kg
	CF47-007	2083914 330	750788 070	Manganese	537 000	158 000	365 080	0 0	0 5	3480	NA	mg/kg
	CF47-007	2083914 330	750788 070	Nickel	34 200	12 000	14 910	0 0	0 5	20400	NA	mg/kg
	CF47-007	2083914 330	750788 070	Strontium	240 000	20 000	48 940	0 0	0 5	613000	NA	mg/kg
	CF47-007	2083914 330	750788 070	Uranium-234	4 140	1 690	2 3	0 0	0 5	300	1800	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CF47-007	2083914 330	750788 070	Uranium-235	0 302	0 140	0 094	0 0	0 5	8	1900	pCi/g
	CF47-007	2083914 330	750788 070	Uranium-238	4 140	1 690	2 000	0 0	0 5	351	1600	pCi/g
	CF47-007	2083914 330	750788 070	Vanadium	88 500	31 000	45 590	0 0	0 5	7150	433	mg/kg
	CF47-007	2083914 330	750788 070	Zinc	165 000	9 000	73 760	0 0	0 5	307000	NA	mg/kg
700-150 3 – Radioactive Site Between Buildings 771 and 774	CG48-016	2083956 548	751017 273	Nitrate	2 500	0 250	NA	0 5	2 5	1000000	NA	mg/kg
	CF48-017	2083924 677	751018 377	Barium	536 000	98 000	289 38	0 5	2 5	26400	NA	mg/kg
	CF48-017	2083924 677	751018 377	Copper	80 800	4 000	38 21	0 5	2 5	40900	NA	mg/kg
	CF48-017	2083924 677	751018 377	Uranium-234	4 788	1 770	2 6	0 5	2 5	300	1800	pCi/g
	CF48-017	2083924 677	751018 377	Uranium-235	0 146	0 106	0 12	0 5	2 5	8	1900	pCi/g
	CF48-017	2083924 677	751018 377	Uranium-238	4 788	1 770	1 49	0 5	2 5	351	1600	pCi/g
	CF48-017	2083924 677	751018 377	Vanadium	157 000	31 000	88 49	0 5	2 5	7150	433	mg/kg
	CG48-017	2084026 765	751016 607	Barium	548 000	98 000	289 38	0 5	2 5	26400	NA	mg/kg
	CG48-017	2084026 765	751016 607	Copper	91 300	4 000	38 21	0 5	2 5	40900	NA	mg/kg
	CG48-017	2084026 765	751016 607	Napthalene	110 000	5 900	NA	0 5	2 5	3090000	NA	ug/kg
	CG48-017	2084026 765	751016 607	Uranium-234	3 123	2 170	2 6	0 5	2 5	300	1800	pCi/g
	CG48-017	2084026 765	751016 607	Uranium-235	0 247	0 117	0 12	0 5	2 5	8	1900	pCi/g
	CG48-017	2084026 765	751016 607	Uranium-238	3 123	2 170	1 49	0 5	2 5	351	1600	pCi/g
	CG48-017	2084026 765	751016 607	Vanadium	140 000	31 000	88 49	0 5	2 5	7150	433	mg/kg
	CG48-018	2084064 950	751049 910	Arsenic	16 400	5 000	13 14	0 5	2 5	22 2	21 6	mg/kg
	CG48-018	2084064 950	751049 910	Barium	536 000	98 000	289 38	0 5	2 5	26400	NA	mg/kg
	CG48-018	2084064 950	751049 910	Copper	130 000	4 000	38 21	0 5	2 5	40900	NA	mg/kg
	CG48-018	**2084064 950**	**751049.910**	**Lead**	**27 200**	**7 000**	**24 97**	**0 5**	**2 5**	**1000**	**25 6**	**mg/kg**
	CG48-018	2084064 950	751049 910	Uranium-235	0 177	0 136	0 12	0 5	2 5	8	1900	pCi/g
	CG48-018	2084064 950	751049 91	Vanadium	128 000	31 000	88 49	0 5	2 5	7150	433	mg/kg
Maintenance Shop Drain (Inside Maintenance Shop)	CE48-027	751065.23	2083566 34	Acetone	13	113	-	0	0 5	102000000	211000	ug/kg
	CE48-027	751065 23	2083566 34	Americium-241	3 289	0 60	0 0227	0	0 5	76	1900	pCi/g
	CE48-027	751065 23	2083566 34	Anthracene	110	70	-	0	0 5	204000000	-	ug/kg
	CE48-027	751065 23	2083566 34	Barium	727	98	141.26	0	0 5	26400	-	mg/kg
	CE48-027	751065 23	2083566 34	Benzene	1 2	5 66	-	0	0 5	205000	-	ug/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE48-027	751065 23	2083566 34	Benzo(a)anthracene	430	42	-	0	0 5	34900	800000	ug/kg
	CE48-027	751065 23	2083566 34	Benzo(a)pyrene	530	55	-	0	0 5	3490	25700	ug/kg
	CE48-027	751065 23	2083566 34	Benzo(b)fluoranthene	820	67	-	0	0 5	34900	1010000	ug/kg
	CE48-027	751065 23	2083566 34	Benzo(k)fluoranthene	410	73	-	0	0 5	349000	1010000	ug/kg
	CE48-027	751065 23	2083566 34	bis(2-Ethylhexyl)phthalate	830	75	-	0	0 5	1970000	-	ug/kg
	CE48-027	751065 23	2083566 34	Chromium	43 2	20	16 99	0	0 5	268	-	mg/kg
	CE48-027	751065 23	2083566 34	Chrysene	530	36	-	0	0 5	3490000	-	ug/kg
	CE48-027	751065 23	2083566 34	Copper	41 9	4	18 06	0	0 5	40900	-	mg/kg
	CE48-027	751065 23	2083566 34	Dibenz(a,h)anthracene	200	66	-	0	0 5	3490	-	ug/kg
	CE48-027	751065 23	2083566 34	Ethylbenzene	1 4	5 66	-	0	0 5	4250000	-	ug/kg
	CE48-027	751065.23	2083566 34	Fluoranthene	590	42	-	0	0 5	27200000	-	ug/kg
	CE48-027	751065 23	2083566 34	Indeno(1,2,3-cd)pyrene	680	47	-	0	0 5	34900	-	ug/kg
	CE48-027	751065 23	2083566 34	Iron	30700	2190	18037	0	0 5	307000	-	mg/kg
	CE48-027	751065 23	2083566 34	Manganese	392	158	365 08	0	0 5	3480	-	mg/kg
	CE48-027	751065 23	2083566 34	Naphthalene	1 1	5 66	-	0	0 5	3090000	-	ug/kg
	CE48-027	751065 23	2083566 34	Nickel	45	12	14 91	0	0 5	20400	-	mg/kg
	CE48-027	751065 23	2083566 34	Plutonium-239/240	18 75	0 60	0 066	0	0 5	50	3800	pCi/g
	CE48-027	751065 23	2083566 34	Pyrene	610	60	-	0	0 5	22100000	-	ug/kg
	CE48-027	751065 23	2083566 34	Strontium	155	20	48 94	0	0 5	613000	-	mg/kg
	CE48-027	751065 23	2083566 34	Toluene	4 8	5 66	-	0	0 5	31300000	128000	ug/kg
	CE48-027	751065 23	2083566 34	Uranium, Total	11 6662	5 55	5 98	0	0 5	2750	67 8	mg/kg
	CE48-027	751065 23	2083566 34	Uranium, Total	9 8604	4 69	5 98	0	0 5	2750	67 8	mg/kg
	CE48-027	751065 23	2083566 34	Uranium-234	3 928	1 87	2 25	0	0 5	300	1800	pCi/g
	CE48-027	751065 23	2083566 34	Uranium-235	0 2248	0 18	0 09	0	0 5	8	1900	pCi/g
	CE48-027	751065 23	2083566 34	Uranium-238	3 928	1 87	2	0	0 5	351	1600	pCi/g
	CE48-027	751065 23	2083566 34	Vanadium	183	31	45 59	0	0 5	7150	433	mg/kg
	CE48-027	751065 23	2083566 34	Xylene	8 8	11 3	-	0	0 5	2040000	-	ug/kg
	CE48-027	751065 23	2083566 34	Zinc	117	9	73 76	0	0 5	307000	-	mg/kg
Maintenance Shop Drain (Outside Maintenance Shop)	CE48-028	751064 32	2083538 06	Acenaphthene	150	52	-	0	0 5	40800000	-	ug/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE48-028	751064 32	2083538 06	Anthracene	220	75	-	0	0 5	204000000	-	ug/kg
	CE48-028	751064 32	2083538 06	Arsenic	10 6	5	10 09	0	0 5	22 2	21 6	mg/kg
	CE48-028	751064 32	2083538 06	Barium	584	98	141 25	0	0 5	26400	-	mg/kg
	CE48-028	751064 32	2083538 06	Benzene	1	5 37	-	0	0 5	205000	-	ug/kg
	CE48-028	751064 32	2083538 06	Benzo(a)anthracene	470	45	-	0	0 5	34900	800000	ug/kg
	CE48-028	751064 32	2083538 06	Benzo(a)pyrene	490	59	-	0	0 5	3490	25700	ug/kg
	CE48-028	751064 32	2083538 06	Benzo(b)fluoranthene	490	73	-	0	0 5	34900	1010000	ug/kg
	CE48-028	751064 32	2083538 06	Benzo(k)fluoranthene	280	79	-	0	0 5	349000	1010000	ug/kg
	CE48-028	751064 32	2083538 06	bis(2-Ethylhexyl)phthalate	280	81	-	0	0 5	1970000	-	ug/kg
	CE48-028	751064 32	2083538 06	Chromium	55 2	20	16 99	0	0 5	268	-	mg/kg
	CE48-028	751064 32	2083538 06	Chrysene	470	39	-	0	0 5	3490000	-	ug/kg
	CE48-028	751064 32	2083538 06	Copper	55 6	4	18 06	0	0 5	40900	-	mg/kg
	CE48-028	751064 32	2083538 06	Dibenz(a,h)anthracene	120	72	-	0	0 5	3490	-	ug/kg
	CE48-028	751064 32	2083538 06	Fluoranthene	950	45	-	0	0 5	27200000	-	ug/kg
	CE48-028	751064 32	2083538 06	Fluorene	110	63	-	0	0 5	40800000	-	ug/kg
	CE48-028	751064 32	2083538 06	Indeno(1,2,3-cd)pyrene	380	51	-	0	0 5	34900	-	ug/kg
	CE48-028	751064 32	2083538 06	Iron	39900	2190	18037	0	0 5	307000	-	mg/kg
	CE48-028	751064 32	2083538 06	Lead	202	7	54 62	0	0 5	1000	25 6	mg/kg
	CE48-028	751064 32	2083538 06	Manganese	527	158	365 08	0	0 5	3480	-	mg/kg
	CE48-028	751064 32	2083538 06	Naphthalene	3 4	5 37	-	0	0 5	3090000	-	ug/kg
	CE48-028	751064 32	2083538 06	Naphthalene	56	49	-	0	0 5	3090000	-	ug/kg
	CE48-028	751064 32	2083538 06	Nickel	52	12	14 91	0	0 5	20400	-	mg/kg
	CE48-028	751064 32	2083538 06	Pyrene	940	65	-	0	0 5	22100000	-	ug/kg
	CE48-028	751064 32	2083538 06	Strontium	148	20	48 94	0	0 5	613000	-	mg/kg
	CE48-028	751064 32	2083538 06	Toluene	2 7	5 37	-	0	0 5	31300000	128000	ug/kg
	CE48-028	751064 32	2083538 06	Uranium, Total	10 3059	5 29	5 98	0	0 5	2750	67 8	mg/kg
	CE48-028	751064 32	2083538 06	Uranium, Total	8 8506	4 54	5 98	0	0 5	2750	67 8	mg/kg
	CE48-028	751064 32	2083538 06	Uranium-234	3 47	1 78	2 25	0	0 5	300	1800	pCi/g
	CE48-028	751064 32	2083538 06	Uranium-235	0 2399	0 15	0 093	0	0 5	8	1900	pCi/g
	CE48-028	751064 32	2083538 06	Uranium-238	3 47	1 78	2	0	0 5	351	1600	pCi/g

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
	CE48-028	751064 32	2083538 06	Vanadium	161	31	45 59	0	0 5	7150	433	mg/kg
	CE48-028	751064 32	2083538 06	Zinc	209	9	73 76	0	0 5	307000	-	mg/kg
IHSS 149 1 (Solar Evaporation Ponds)	CH48-020	2084187 540	751051 722	Arsenic	18 000	5 000	13 14	4 5	6 5	22 2	21 6	mg/kg
	CH48-020	2084187 540	751051 722	Barium	554 000	98 000	289 38	4 5	6 5	26400	NA	mg/kg
	CH48-020	2084187 540	751051 722	Chromium	38 900	20 000	NA	4 5	6 5	268	NA	mg/kg
	CH48-020	2084187 540	751051 722	Copper	74 100	4 000	38 21	4 5	6 5	40900	NA	mg/kg
	CH48-020	2084187 540	751051 722	Lead	25 100	7 000	24 97	4 5	6 5	1000	25 6	mg/kg
	CH48-020	2084187 540	751051 722	Uranium-234	3 174	1 470	2 6	4 5	6 5	300	1800	pCi/g
	CH48-020	2084187 540	751051 722	Uranium-235	0 227	0 121	0 12	4 5	6 5	8	1900	pCi/g
	CH48-020	2084187 540	751051 722	Uranium-238	3 174	1 470	1 49	4 5	6 5	351	1600	pCi/g
	CH48-020	2084187 540	751051 722	Vanadium	161 000	31 000	88 49	4 5	6 5	7150	433	mg/kg
	CH48-021	2084253 990	751015 760	Arsenic	14 100	5 000	13 14	4 5	6 5	22 2	21 6	mg/kg
	CH48-021	2084253 990	751015 760	Copper	98 900	4 000	38 21	4 5	6 5	40900	NA	mg/kg
	CH48-021	2084253 990	751015 760	Uranium-234	2 188	1 530	2 6	4 5	6 5	300	1800	pCi/g
	CH48-021	2084253 990	751015 760	Uranium-235	0 251	0 106	0 12	4 5	6 5	8	1900	pCi/g
	CH48-021	2084253 990	751015 760	Uranium-238	2 188	1 530	1 49	4 5	6 5	351	1600	pCi/g
	CH48-021	2084253 990	751015 760	Vanadium	173 000	31 000	88 49	4 5	6 5	7150	433	mg/kg
	CH48-021	2084253 990	751015 760	Zinc	582 000	9 000	139 1	4 5	6 5	307000	NA	mg/kg

2.1.1 Analytical Results

Analytical results indicate that the following analytes are present in soil at concentrations greater than RFCA soil WRW) or Ecological Receptor ALs (DOE et al 2003)

Table 4
IHSS Group 700-4 Results Greater Than ALs

Location	Analyte	Result	Depth (feet)
CH48-004	Arsenic	24 8 mg/kg (WRW exceedance)	4 5 – 6 5
CF49-000	Arsenic	22 8 mg/kg (WRW exceedance	0 0 – 0 5
CF49-005	Arsenic	30 mg/kg (WRW exceedance)	0 0– 0 5
CG48-008	Americium-241	1,220 pCi/g (WRW exceedance)	0 0 – 0 5 beneath building basement
CG48-009	Americium-241	116 40 pCi/g (WRW exceedance)	0 0 – 0 5 beneath building basement
CE47-012	Dibenz(a,h)anthracene	5,500 ug/mg (WRW exceedance)	0 0 – 0 5
CE49-008	Lead	26 0 mg/kg (ecological receptor exceedance)	0 0 – 0 5
CE49-009	Lead	33 9 mg/kg (ecological receptor exceedance)	0 0 – 0 5
CG48-018	Lead	27 2 mg/kg (ecological receptor exceedance)	0 0 – 0 5
CE48-011	Lead	108 mg/kg (ecological receptor exceedance)	0 0 – 0 5
CE48-019	Lead	60 mg/kg (ecological receptor exceedance)	0 0 – 0 5
CE49-007	Lead	63 9 mg/kg (ecological receptor exceedance)	0 0 – 0 5
CG48-008	Plutonium-239/240	1,690 pCi/g (WRW exceedance)	0 0 – 0 5 beneath building basement
CG48-009	Plutonium-239/240	943 75 pCi/g (WRW exceedance)	0 0 – 0 5 beneath building basement
CE47-003	Plutonium-239/240	56 6 pCi/g (WRW exceedance)	0 0 – 0 5 beneath building basement

Liquid samples were collected when water was encountered in a borehole at Location CF48-009 (inside Building 771) Analytical results indicate that all contaminant concentrations in the borehole samples were less than RFCA Tier II groundwater ALs, with two exceptions The manganese concentration at Location CF48-009 was 3 mg/L and the Tier II groundwater AL is 1 72 mg/L The Tier I groundwater AL for manganese is 172 mg/L The bis(2-ethylhexyl)phthalate concentration at Location CF48-009 was 230 ug/L, and the Tier II groundwater AL is 6 ug/L The Tier I groundwater AL is 600 ug/L The raw data are included on the enclosed compact disc as a separate file

2.1.2 Sums of Ratios

RFCA SORs were calculated for the IHSS Group 700-4 sampling locations SOR calculations were based on analytical data for the radionuclides of concern (americium-241, plutonium-239/240, uranium-234, uranium-235, and uranium-238) with concentrations greater than background means plus two standard deviations Table 5 presents the SORs for surface and subsurface soil All SORs are less than one except for Sampling Locations CG48-008 and CG48-009 Please see discussion in Section 2 1 4 for further information

Table 5
RFCA SORs for IHSS Group 700-4 Characterization Sampling Locations

Location	Surface Soil SOR	Subsurface Soil SOR
CD48-000	0 015	NA
CD48-001	0 053	NA
CE46-001	NA	0 040
CE47-000	NA	0 014
CE47-001	NA	0 093
CE47-002	NA	0 055
CE47-003	NA	0 589
CE47-004	NA	0 045
CE47-009	NA	0 062
CE47-011	0 059	NA
CE47-012	0 042	NA
CE47-013	0 057	NA
CE47-014	0 051	NA
CE47-015	0 041	NA
CE47-016	0 065	NA
CE47-017	0 015	NA
CE47-018	0 047	NA
CE47-019	0 015	NA
CE47-022	NA	0 103
CE47-023	NA	0 003
CE48-000	NA	0 044
CE48-001	0 049	NA
CE48-003	NA	0 014
CE48-006	NA	0 061
CE48-007	NA	0 017
CE48-008	0 039	NA
CE48-009	0 037	NA
CE48-010	0 050	NA
CE48-011	0 040	NA
CE48-012	0 063	NA
CE48-013	0 047	NA
CE48-014	0 035	NA
CE48-015	0 018	NA
CE48-016	0 045	NA
CE48-017	0 059	NA
CE48-018	0 034	NA
CE48-019	0 033	NA
CE48-020	0 027	NA
CE48-021	0 056	NA
CE48-023	0 046	NA
CE48-024	NA	0 035
CE48-025	NA	0 033
CE49-000	NA	0 077
CE49-001	0 013	NA
CE49-002	0 050	NA
CE49-003	0 029	NA
CE49-004	0 077	NA
CE49-005	0 063	NA
CE49-006	0 057	NA

Location	Surface Soil SOR	Subsurface Soil SOR
CE49-007	0 018	NA
CE49-008	0 035	NA
CE49-009	0 031	NA
CE49-012	NA	0 040
CF47-000	NA	0 033
CF47-001	NA	0 028
CF47-002	NA	0 020
CF47-003	NA	0 024
CF47-004	NA	0 069
CF47-005	NA	0 069
CF47-006	0 056	NA
CF47-007	0 061	NA
CF48-000	NA	0 032
CF48-003	NA	0 020
CF48-005	NA	0 111
CF48-006	NA	0 115
CF48-007	NA	0 052
CF48-008	NA	0 024
CF48-012	NA	0 030
CF48-013	0 039	NA
CF48-014	0 021	NA
CF48-015	0 020	NA
CF48-017	NA	0 048
CF48-018	NA	0 049
CF48-024	NA	0 030
CF49-000	0 057	NA
CF49-001	0 016	NA
CF49-002	0 050	NA
CF49-003	0 050	NA
CF49-004	0 026	NA
CF49-005	0 031	NA
CF49-006	0 024	NA
CF49-007	0 064	NA
CF49-008	0 057	NA
CF49-009	0 057	NA
CF49-012	0 053	NA
CF49-013	0 013	NA
CF49-014	0 040	NA
CF49-015	0 012	NA
CF49-016	0 051	0 278
CF49-017	NA	0 001
CG47-002	NA	0 052
CG47-003	NA	0 054
CG48-000	NA	0 052
CG48-001	NA	0 029
CG48-004	NA	0 017
CG48-005	NA	NA
CG48-007	NA	0 169
CG48-008	NA	30 631
CG48-009	NA	9 728
CG48-010	NA	0 202
CG48-011	NA	0 021

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Location	Surface Soil SOR	Subsurface Soil SOR
CG48-012	NA	0 013
CG48-013	NA	0 033
CG48-015	NA	0 027
CG48-017	NA	NA
CG48-018	NA	NA
CG48-020	NA	0 048
CG48-023	NA	0 328
CG49-000	0 056	NA
CG49-001	0 054	NA
CG49-006	0 057	NA
CG49-007	0 003	NA
CH48-003	NA	0 063
CH48-004	NA	0 014
CH48-005	0 070	NA
CH48-006	0 191	NA
CH48-007	0 050	NA
CH48-008	0 045	NA
CH48-009	0 035	NA
CH48-010	0 045	NA
CH48-011	0 085	NA
CH48-012	0 039	NA
CH48-013	0 049	NA
CH48-014	0 065	NA
CH48-015	0 047	NA
CH48-017	NA	0 011
CH48-018	NA	0 031
CH48-019	NA	0 054
CH48-020	NA	0 048
CH48-021	NA	0 045
CH49-000	0 157	NA
CH49-001	0 157	NA
CH49-002	0 008	NA
CH49-003	0 048	NA
CH49-004	0 154	NA

NA – No data available or radionuclides less than background

2.1.3 Summary Statistics

Summary statistics were calculated for the IHSS Group 700-4 sampling locations and are presented in Tables 6 and 7

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Table 6
Surface Soil Characterization Summary Statistics

Analyte	Number Samples	Detection Frequency	Average	Maximum	Detection Limit	WRW AL	Ecological AL	Background	Unit
2-Methylnaphthalene	59	8 47%	316 00	910	38 60	20400000 00	-	-	ug/kg
4-Methyl-2-pentanone	22	13 64%	44 67	73	59 67	16400000 00	-	-	ug/kg
Acenaphthene	59	33 90%	470 95	4600	50 20	40800000 00	-	-	ug/kg
Acetone	22	77 27%	29 76	110	112 65	102000000 00	211000 00	-	ug/kg
Aluminum	4	50 00%	26000 00	27000	2 70	228000 00	-	16902 00	mg/kg
Americium-241	97	15 46%	68 57	727 9	0 79	76 00	1900 00	0 02	pCi/g
Anthracene	59	35 59%	820 71	6200	71 76	204000000 00	-	-	ug/kg
Antimony	85	7 06%	10 91	19 2	7 00	409 00	-	0 47	mg/kg
Aroclor-1254	20	45 00%	59 89	96	4 86	12400 00	371000 00	-	ug/kg
Aroclor-1260	20	20 00%	42 25	74	5 35	12400 00	-	-	ug/kg
Arsenic	85	67 06%	13 47	30	4 92	22 20	21 60	10 09	mg/kg
Barium	85	96 47%	650 46	1030	96 81	26400 00	-	141 26	mg/kg
Benzene	22	4 55%	1 00	1	5 37	205000 00	-	-	ug/kg
Benzo(a)anthracene	57	63 16%	469 58	3100	43 67	34900 00	800000 00	-	ug/kg
Benzo(a)pyrene	57	56 14%	552 84	2900	57 34	3490 00	25700 00	-	ug/kg
Benzo(b)fluoranthene	57	45 61%	493 92	2600	70 65	34900 00	1010000 00	-	ug/kg
Benzo(k)fluoranthene	57	45 61%	489 15	2600	76 27	349000 00	1010000 00	-	ug/kg
Benzyl Alcohol	59	6 78%	295 00	520	91 50	307000000 00	-	-	ug/kg
Beryllium	4	50 00%	1 15	1 3	0 04	921 00	2 15	0 97	mg/kg
bis(2-Ethylhexyl)phthalate	59	13 56%	203 75	380	76 38	1970000 00	-	-	ug/kg
Butylbenzylphthalate	59	5 08%	1440 00	4100	69 50	147000000 00	-	-	ug/kg
Chromium	85	94 12%	41 58	104	19 25	268 00	-	16 99	mg/kg
Chrysene	57	63 16%	590 31	4400	38 03	3490000 00	-	-	ug/kg
Cobalt	85	1 18%	11 00	11	0 08	1550 00	-	10 91	mg/kg
Copper	85	97 65%	104 21	291	3 91	40900 00	-	18 06	mg/kg
Di-n-octylphthalate	58	1 72%	61 00	61	57 00	14700000 00	-	-	ug/kg
Dibenz(a,h)anthracene	59	27 12%	754 63	5500	69 88	3490 00	-	-	ug/kg
Dibenzofuran	59	10 17%	662 83	2700	55 17	2950000 00	-	-	ug/kg

Analyte	Number Samples	Detection Frequency	Average	Maximum	Detection Limit	WRW AL	Ecological AL	Background	Unit
Ethylbenzene	22	9 09%	2 75	3	6 15	4250000 00	-	-	ug/kg
Fluoranthene	56	60 71%	817 74	3700	43 59	27200000 00	-	-	ug/kg
Fluorene	59	25 42%	510 20	3600	60 33	40800000 00	-	-	ug/kg
Indeno(1,2,3-cd)pyrene	57	45 61%	354 69	1800	49 31	34900 00	-	-	ug/kg
Iron	85	94 12%	33271 25	66900	2135 30	307000 00	-	18037 00	mg/kg
Lead	85	4 71%	108 48	202	7 00	1000 00	25 60	54 62	mg/kg
Lithium	4	50 00%	14 00	14	0 14	20400 00	-	11 55	mg/kg
Lithium	4	50 00%	14 00	14	0 14	20400 00	-	11 55	mg/kg
Manganese	85	65 88%	605 21	1680	155 18	3480 00	-	365 08	mg/kg
Naphthalene	81	23 46%	124 51	1000	27 12	3090000 00	-	-	ug/kg
Nickel	85	98 82%	42 04	89 6	11 58	20400 00	-	14 91	mg/kg
Nitrate	3	100 00%	3 13	3 4	0 25	1000000 00	-	-	mg/kg
Plutonium-239/240	97	14 43%	418 54	4149 03	0 82	50 00	3800 00	0 07	pCi/g
Pyrene	56	60 71%	738 12	2900	62 44	22100000 00	-	-	ug/kg
Selenium	85	3 53%	1 52	1 6	0 87	5110 00	-	1 22	mg/kg
Strontium	85	97 65%	207 75	560	19 52	613000 00	-	48 94	mg/kg
Tin	85	48 24%	5 48	16 5	3 65	613000 00	-	2 90	mg/kg
Toluene	22	9 09%	2 85	3		31300000 00	128000 00	-	ug/kg
Trichloroethene	22	4 55%	0 80	0 8		19600 00	509000 00	-	ug/kg
Uranium, Total	574	26 83%	10 41	18 414		2750 00	67 80	5 98	mg/kg
Uranium-234	97	75 26%	3 79	6 2		300 00	1800 00	2 25	pCi/g
Uranium-235	97	69 07%	0 22	0 44		8 00	1900 00	0 09	pCi/g
Uranium-238	97	80 41%	3 69	6 2		351 00	1600 00	2 00	pCi/g
Vanadium	85	95 29%	119 73	211		7150 00	433 00	45 59	mg/kg
Xylene	22	13 64%	12 67	17		2040000 00	-	-	ug/kg
Zinc	85	89 41%	160 86	450		307000 00	-	73 76	mg/kg

Table 7
Subsurface Soil Characterization Summary Statistics

Analyte Name	Number Samples	Detection Frequency	Average	Maximum	Detection Limit	WRW AL	Ecological AL	Background	Unit
1,4-Dichlorobenzene	41	2 44%	170 00	170	5 00	840000	-	-	ug/kg
2-Butanone	40	2 50%	10 00	10	120 00	192000000	433000	-	ug/kg
2-Methylnaphthalene	36	2 78%	42 00	42	39 00	20400000	-	-	ug/kg
4-Methyl-2-pentanone	40	15 00%	30 50	77	53 17	16400000	-	-	ug/kg
Acenaphthene	36	2 78%	210 00	210		40800000	NA	NA	ug/kg
Acetone	40	77 50%	37 87	460	109 68	102000000	211000	-	ug/kg
Americium-241	129	10 08%	367 01	1735	6 70	76	1900	0 02	pCi/g
Anthracene	36	8 33%	176 67	220	71 33	204000000	-	-	ug/kg
Aroclor-1254	13	7 69%	13 00	13	4 60	12400	371000	-	ug/kg
Arsenic	73	20 55%	16 58	24 8	5 00	22 2	21 6	10 09	mg/kg
Barium	73	73 97%	667 81	1700	98 00	26400	-	141 26	mg/kg
Benzo(a)anthracene	35	11 43%	297 50	480	42 00	34900	800000	-	ug/kg
Benzo(a)pyrene	35	11 43%	300 00	520	55 00	3490	25700	-	ug/kg
Benzo(b)fluoranthene	35	11 43%	251 75	450	67 75	34900	1010000	-	ug/kg
Benzo(k)fluoranthene	35	11 43%	266 75	440	73 50	349000	1010000	-	ug/kg
Benzyl Alcohol	35	5 71%	930 00	1600	91 00	307000000	-	-	ug/kg
bis(2-Ethylhexyl)phthalate	35	8 57%	233 33	440	76 67	1970000	-	-	ug/kg
Butylbenzylphthalate	35	2 86%	110 00	110	68 00	147000000	-	-	ug/kg
Cadmium	73	2 74%	6 20	10 1	1 52	962	-	1 61	mg/kg
Chloroform	40	2 50%	9 80	9 8	6 50	19200	101000	-	ug/kg
Chromium	73	2 74%	89 95	106	20 00	268	-	16 99	mg/kg
Chrysene	35	11 43%	352 50	580	36 75	3490000	-	-	ug/kg
Copper	73	68 49%	104 89	234	4 00	40900	-	18 06	mg/kg
Di-n-butylphthalate	35	5 71%	227 50	380	68 50	73700000	-	-	ug/kg
Dibenz(a,h)anthracene	35	5 71%	120 00	120	67 50	3490	-	-	ug/kg
Dibenzofuran	35	2 86%	97 00	97	56 00	2950000	-	-	ug/kg
Ethylbenzene	40	12 50%	39 98	144	9 11	4250000	-	-	ug/kg
Fluoranthene	35	14 29%	576 00	1400	42 20	27200000	-	-	ug/kg
Fluorene	35	2 86%	170 00	170	60 00	40800000	-	-	ug/kg
Indeno(1,2,3-cd)pyrene	35	8 57%	192 00	260	48 00	34900	-	-	ug/kg
Iron	73	2 74%	57500 00	72600	2190 00	307000	-	18037 00	mg/kg

Analyte Name	Number Samples	Detection Frequency	Average	Maximum	Detection Limit	WRW AL	Ecological AL	Background	Unit
Lead	73	19 18%	32 41	46 2	6 52	1000	25 6	54 62	mg/kg
Manganese	73	1 37%	1580 00	1580	158 00	3480	-	365 08	mg/kg
Naphthalene	75	28 00%	12 45	120		7 64	3090000	-	-
Nickel	73	1 37%	71 90	71 9		12 00	20400	-	14 91
Nitrate	15	93 33%	4 34	12		0 24	1000000	-	-
Phenol	35	2 86%	110 00	110		61 00	613000000	-	-
Plutonium-239/240	130	9 23%	1815 72	9889 5		6 86	50	3800	0 07
Pyrene	35	14 29%	598 00	1300		60 80	22100000	-	-
Strontium	73	10 96%	273 50	338		20 00	613000	-	48 94
Tetrachloroethene	40	2 50%	4 10	4 1		6 50	615000	37500	-
Toluene	40	7 50%	132 33	193		11 45	31300000	128000	-
Trichloroethene	40	2 50%	1 00	1		6 50	19600	509000	-
Uranium, Total	725	28 83%	10 30	19 305		4 81	2750	67 8	5 98
Uranium-234	127	71 65%	4 04	6 5		1 82	300	1800	2 25
Uranium-235	127	69 29%	0 24	0 634		0 35	8	1900	0 09
Uranium-238	127	81 10%	3 82	6 5		1 78	351	1600	2 00
Vanadium	73	72 60%	141 44	235		31 00	7150	433	45 59
Xylene	40	20 00%	177 88	1040		15 60	2040000	-	-
Zinc	73	15 07%	240 36	582		8 24	307000	-	73 76

2.2 Discussion

Several WRW exceedances are present at IHSS Group 700-4 These are listed in Table 7 and are discussed below

2.2.1 Radionuclide Exceedances

Radionuclide excedances were present beneath Building 771 and 774 at depths beneath current grade of approximately 16 feet Building 774 radionuclide exceedances are considered the result of cross-contamination from building floor concrete This is demonstrated in the following sections

Americium-241 to Plutonium-239/240 Ratios

Americium activity, measured with the onsite laboratory high-purity germanium (HPGe) detector, was greater than the RFCA WRW AL at Sampling Locations CG48-006, CG48-008, and CG48-009 Plutonium activities were calculated using the following equation

$$\text{Pu-239/240} = \text{Am-241} * 8\ 08 + 3\ 24 \qquad \text{Equation 1}$$

Because Sampling Location CG48-006 plutonium-239/240 activity was calculated at 14 nanocuries per gram (nCi/g), the sample from this location was reanalyzed at the Building 559 laboratory and the results were less than DLs Additionally, Sampling Location CG48-023 was collected from within one foot of Sampling Location CG48-006 The results of these analyses are listed in Table 8 for comparison

Table 8
Americium and Plutonium Analytical Results – Sampling Locations CG48-006 and CG48-023

Analyte	On-site HPGe Americium-241 Analysis and Calculated Plutonium-239/240 (CG48-006) (pCi/g)	Off-site Alpha Spectrometer Analysis (CG48-023) (pCi/g)
Americium-241	1,735	24 1
Plutonium-239/240	14,022	1 32
Pu/Am ratio	8 08 + 3 2	0 05

Because Sampling Location CG48-008 plutonium activity was calculated at 2 9 nCi/g, the sample from this location was reanalyzed using alpha spectroscopy at an off-site laboratory The results of these analyses are listed in Table 9 for comparison

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Table 9
Americium and Plutonium Analytical Results – Sampling Location CG48-008

Analyte	On-site HPGe Americium-241 Analysis and Calculated Plutonium-239/240 (CG48-008) (pCi/g)	Off-site Alpha Spectrometer Analysis (CG48-008) (pCi/g)
Americium-241	370	1,220
Plutonium-239/240	2,992	1,690
Pu/Am ratio	8 08 + 3 2	1 4

Recalculation of plutonium-239/240 from the observed ratios indicate that plutonium-239/240 activity is considerably less than initially reported Recalculated plutonium-239/240 activities for the three locations with exceedances are contained in Table 10 The americium-241 to plutonium-239/240 ratio determined through alpha spectroscopy analysis was 0 05 at Sampling Location CG48-023 (resampled CG48-006) and 1 4 at Sampling Location CG48-008

Table 10
Recalculated Plutonium-239/240

Location	Americium-241 (pCi/g)	Plutonium-239/240 Estimated with Standard Ratio (pCi/g)	Plutonium-239/240 Estimated with Observed Ratio
CG48-006*	1,735	14,022	86 8
CG48-008	370	2,992	518
CG48-009	116 4	943 71	163
Pu/Am ratio		8 08 + 3 2	0 05*/1 4

* - Indicates that the 0 05 ratio is used in recalculating plutonium-239/240 for CG48-006 from CG48-023 results

As shown in Table 10, the recalculated plutonium-239/240 activity is considerably less than previously calculated, and while greater than RFCA ALs, is considerably less than 1 nCi/g The analytical data corroborate the historical information of americium-241 liquid spills at Building 774

In accordance with RFCA, no remediation is required below 3 feet if the combined activity is less than 3 nCi/g Using the recalculated values, no remediation is required in this area Additionally, the SSRS is used for radionuclide contamination below 3 feet in depth Because these exceedances are at approximately 16 feet below grade they are further discussed in the SSRS (Section 6 0)

Cross Contamination

Apparent radionuclide contamination at locations CG48-008 and CG48-009 are not representative of acual conditions because when drilling through contaminated concrete, contamination was carried into the soil samples This is evidenced by the following

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- Fixed radionuclide contamination on the concrete floor was present Analytical results from a concrete core collected from the room where radionuclide soil AL exceedances were found, were reported at 18 5 nCi/g (personal communication - S Roberts 2003) The locations in Building 774, which had elevated radionuclides, were drilled through the concrete floor, which had been painted several times to fix radionuclide contamination
- RFCA AL exceedances could not be duplicated The elevated americium-241 and plutonium-239/240 from Sampling Location CG48-006 could not be duplicated by resampling within one foot of the sampling location (Table 8) A second previously unknown concrete slab was found underneath the concrete slab Extra sampling precautions were used during the redrilling
- RFCA AL exceedances, at depths of approximately 16 feet, are not consistent in the area of Tank 13 While Sampling Locations CG48-006, CG48-008, and CG48-009 are near Tank 13 – an abandoned sump – but on different sides, results from other sampling locations (CG48-000, CG48-007, and CG48-010 [Table 3]) around or under the sump indicate that americium-241 and plutonium-239/240 activities are less than WRW ALs

In summary, the radionuclide exceedances reported from analyses at Building 774 are the result of cross contamination from building floor concrete, paint, or drilling cooling water which was incorporated into the soil sample This is evidenced by the following

- Analysis by D&D staff indicated 18 5 nCi/g alpha activity in the concrete in the area where elevated radionuclides were detected in the soil,
- Reanalysis of RFCA AL exceedances could not be duplicated, and
- Analytical results from adjacent sampling locations do not indicate RFCA AL exceedances

2.2.2 Pre-Accelerated Action Sampling

Analytical results from 16 sampling locations during preliminary characterization (DOE 2001b) of UBC 771 indicate that plutonium-239/240 was present at activities greater than WRW ALs at one location, Location 12 (Figure 8) This result is likely cross-contamination from the Building 771 slab because of the following

- This elevated measurement was not corroborated by analytical data from surrounding Sampling Locations 13 and 14, or by nearby accelerated action sampling locations (CF48-003, and CF48-005)
- This elevated result was from the 2 foot to 4 foot interval beneath the Building 771 slab and there were no plutonium-239/240 detections in the 0 to 2 foot interval beneath the slab

2 2.3 Nonradionuclide Exceedances

Dibenz(a,h,)anthracene was detected at 14 surface soil locations in IHSS Group 700-4, and was detected at a concentration greater than the RFCA WRW AL at Location CE47-012 in IHSS 150 2(N) Because this is an isolated exceedance, the 95 percent upper confidence limit (UCL) was calculated over the area of concern (AOC)

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In accordance with the IASAP (DOE 2001a), an action is required when the 95 percent UCL of the mean of the contaminant of concern across the AOC divided by the AL is greater than one The 95 percent UCL of the mean for dibenzo(a,h)anthracene is 1,610 9 across the AOC, and the AL is 3,490 The resulting ratio is 0 462, and action for dibenz(a,h,)anthracene is not indicated

Benzo(a)pyrene was detected in IHSS Group 700-4 at concentrations greater than the RFCA WRW AL at Locations CE47-012 and CE48-012 in IHSS 150 2(N) Several other SVOCs (benzo(b)fluoranthene, benzo(ghi)perline, chrysene, fluoranthene, ideno(1,2,3-cd)pyrene, phenathrene, and pyrene) ere detected at concentrations less than RFCA WRW ALs These results were qualified as "out of range" and have not been validated

There were no processes at Rocky Flats that used or produced these compounds and they are commonly associated with asphalt While not currently underneath asphalt, elevated SVOCs are found near onsite and offsite roads

Arsenic slightly exceeds the WRW AL in several surface soil locations This is likely due to natural variation in Front Range arsenic background Lead exceeds the Ecological Receptor AL in several surface soil locations Lead exceedances will be evaluated through the Accelerated Action Ecological Risk Screening process to determine if soil removal actions are necessary

2.2.4 Discussion Summary

Apparent radionuclide gamma spectroscopy results from soil beneath Building 774 were overestimated using the standard Site americium-241 to plutonium-239/240 ratio Alpha spectroscopy results indicated that the actual ratio ranged from 0 05 to 1 4 Recalculation of the gamma spectroscopy plutonium-239/240 results indicates that total activity at these locations is less than 1 nCi/g and action is not warranted

Analytical results indicating elevated americium-241 and plutonium-239/240 activities in soil beneath Building 774 are the result of cross contamination from building floor material Building 774 floors were contaminated with radionuclides and had been painted several times to fix the contamination Results from concrete core material, from the building floor in the same area as the soil exceedences, indicated total activity of 13 5 nCi/g Resampling within one foot of the highest calculated plutonium exceedance indicated both americium-241 and plutonium-239/240 below RFCA ALs Additionally, results from sampling locations around these exceedances indicated activities below RFCA ALs Because the elevated radionuclide activities are the results of sample contamination from the building floors, action is not warranted

Elevated plutonium-239/240 activities determined during previous sampling beneath Building 771 are the result of cross contamination These data were not corroborated during the previous study or during accelerated action sampling and analysis Because the elevated radionuclide activities are the results of sample contamination from the building floors, action is not warranted

All elevated radionuclide results were at depths of at least 16 feet below current grade In accordance with RFCA, the SSRS (Section 6 0) was used to determine if action was necessary

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Nonradionuclide RFCA exceedances include SVOCs, arsenic and lead in surface soil outside of Buildings 771 and 774 The SVOCs are commonly detected at elevated levels in the vicinity of asphalt Additionally, the 95%UCL screen indicated that action was not necessary Arsenic is present at concentrations slightly greater than the WRW AL but within the range of Front Range background Lead is present at concentrations greater than ecological receptor ALs but will be evaluated for action using the Accelerated Action Ecological Screening Process

3.0 ER RSOP NOTIFICATION

Based on characterization data collected in accordance with IASAP Addendum #IA-03-01 (DOE 2002), removal actions are not required However, D&D staff removed Tanks 14 and 16, southeast of Building 774 These tanks were foamed in 1996 (DOE 1996) Previously, characterization samples were collected adjacent to the tanks After the tanks were removed, additional characterization samples were collected, and the results of sampling analyses are listed in Table 11 Results greater than RCFA WRW ALs are bolded Sampling results indicated that americium-241 activities ranged from 6 15 pCi/g to 6 15 nCi/g at Tank 16 (Tanks 66 and 67) Soil sampling results at Tank 14 (Tank 68) were less than background means plus two standard deviations or DLs The sampling results indicated that soil removal was required Sampling locations and results are also shown on Figure 9

This ER RSOP Notification includes the remediation plan and the data that support removal activities Because this Notification is combined with the Closeout Report, the Stewardship Evaluation and SSRS are conducted for the Closeout Report only

3.1 Remediation Plan

This RSOP Notification remediation plan for IHSS Group 700-4 includes the following objectives

- Remove fill and contaminated soil with radionuclide activities greater than RFCA WRW ALs in accordance with RFCA Attachment 5 (DOE et al, 2003),
- Collect confirmation samples in accordance with the IASAP (DOE 2001a), and
- Backfill the excavation with clean fill, and then grade the area

It is anticipated that after remediation there will be areas at the site with radionuclide activities greater than background means plus two standard deviations but less than the RFCA ALs

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Table 11
Tanks 14 and 16 Characterization Soil Sampling Results

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start	Depth End	WRW AL	Ecological AL	Units
CERCLA Tank 16 (Tanks 66 and 67)	CH48-025	2084142 789	751041 813	1,2-Dichloropropane	9 61	6 06	-	2	3	345000	-	ug/kg
	CH48-025	2084142 789	751041 813	4-Methyl-2-pentanone	303	60 6	-	2	3	16400000	-	ug/kg
	CH48-025	**2084142 789**	**751041 813**	**Americium-241**	**6115**	**11 34**	**0 02**	**2**	**3**	**76**	**1900**	**pCi/g**
	CH48-025	2084142 789	751041 813	Beryllium	15	0 12	14 2	2	3	921	2 15	mg/kg
	CH48-025	2084142 789	751041 813	Lead	55	0 31	24 97	2	3	1000	25 6	mg/kg
	CH48-025	2084142 789	751041 813	Naphthalene	113	6 06	-	2	3	3090000	-	ug/kg
	CH48-025	**2084142 789**	**751041 813**	**Plutonium-239/240**	**34855 5**	**11.34**	**0 02**	**2**	**3**	**50**	**3800**	**pCi/g**
	CH48-025	2084142 789	751041 813	Strontium	280	0 067	211 38	2	3	613000	-	mg/kg
	CH48-025	2084142 789	751041 813	Tetrachloroethene	11 6	6 06	-	2	3	615000	37500	ug/kg
	CH48-025	2084142 789	751041 813	Uranium, Total	22 03443	10 22274	3 04	2	3	2750	67 8	mg/kg
	CH48-025	2084142 789	751041 813	Uranium-234	7 419	3 442	2 64	2	3	300	1800	pCi/g
	CH48-025	2084142 789	751041 813	Uranium-235	0 5346	0 3533	0 12	2	3	8	1900	pCi/g
	CH48-025	2084142 789	751041 813	Uranium-238	7 419	3 442	1 49	2	3	351	1600	pCi/g
	CH48-025	2084142 789	751041 813	Xylene	22 6	12 1	-	2	3	2040000	-	ug/kg
	CH48-026	**2084144.337**	**751030 039**	**Americium-241**	**781 9**	**4 006**	**0 02**	**2**	**3**	**76**	**1900**	**pCi/g**
	CH48-026	2084144 337	751030 039	Beryllium	3 9	0 12	14 2	2	3	921	2 15	mg/kg
	CH48-026	2084144 337	751030 039	Naphthalene	63 3	6 33	-	2	3	3090000	-	ug/kg
	CH48-026	**2084144.337**	**751030 039**	**Plutonium-239/240**	**4456 83**	**4 006**	**0 02**	**2**	**3**	**50**	**3800**	**pCi/g**
	CH48-026	2084144 337	751030 039	Uranium, Total	7 1	1 6	3 04	2	3	2750	67 8	mg/kg
	CH48-026	2084144 337	751030 039	Uranium-234	4 319	2 051	2 64	2	3	300	1800	pCi/g
	CH48-026	2084144 337	751030 039	Uranium-235	0 2184	0 1569	0 12	2	3	8	1900	pCi/g
	CH48-026	2084144 337	751030 039	Uranium-238	4 319	2 051	1 49	2	3	351	1600	pCi/g

4.0 REMOVAL ACTIVITIES

In accordance with the Building 771 Decommissioning Operations Plan (DOE 2003b), Tanks 14 and 16 east of Building 774 were removed by D&D staff Removal activities included the following

- Interior tank foam was removed,
- Incidental water from tanks was removed,
- Tank walls were removed, and
- Broken pieces of foam from tank bottoms was removed

Tank walls, floors, and contents were disposed of after waste characterization Additional information on tank removal and disposal will be available in the D&D closure report

Waste characterization samples, collected by the D&D staff from inside Tank 67, indicated that beryllium was present at concentrations 4 2 mg/L Waste concrete and foam were analyzed for VOCs and analytical results indicated that VOCs were not detected in the waste Additional waste characterization results will be available in the D&D closure report

After tanks were removed, four soil samples were collected from beneath the tanks One sample (CH48-027) was collected from beneath Tank 14 (Tank 68) and two samples (CG48-025 and CH48-026) were collected from beneath the two tanks listed as Tank 16 (Tanks 66 and 67) Analytical results from these samples are listed in Table 11 and shown on Figure 9 All analytical results from CH48-027 (Tank 14 [Tank 68]) were less than DLs, except for molybdenum and silver, which were well below background values

Approximately 2,112 cubic feet (cu ft) of soil and fill with radionuclide contamination were removed from beneath Tank 16 in November, 2003 Confirmation samples were collected at 6 locations The results of these analyses are presented in Table 12 and on Figure 10, and the radionuclide SORs for these confirmation samples are listed in Table 13 Plutonium-239/240 activities were greater than the WRW AL of 50 pCi/g but significantly less than the RFCA specified limit of 1 nCi/g at this depth (approximately 4 feet) beneath Tank 16 (Tanks 66 and 67) SORs are greater than 1 for sampling locations CH48-041, CH48-043, CH48-044, and CH48-045 However, action is not indicated because total activity at these locations is less than 3 nCi/g below 3 feet in depth The SORs are greater than 1 because they are calculated using the AL of 116 pCi/g

Residual contamination in the area where confirmation sampling was conducted, including the area around Tank 14 (Tank 68) and Tank 16 (Tanks 66 and 67), is displayed on Figure 10 Residual contamination around the other IHSSs, PACs, and UBCs are shown on Figures 3, 5, 6, and 7 In these areas, the residual contamination is defined by the characterization data

Accelerated action sampling is summarized in Table 14

There were no deviations from the ER RSOP (DOE 2003a)

Table 12
Tanks 14 and 16 Soil Confirmation Sampling Results

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start (ft)	Depth End (ft)	WRW AL	Ecological AL	Units
Tank 14 (Tank 68)	CH48-050	751019 144	2084152 45	1,1-Dichloroethene	1 7	1 3	-	2	2	17000	-	ug/kg
	CH48-050	751019 144	2084152 45	1,2-Dichloropropane	3 4	1 4	-	2	2	345000	-	ug/kg
	CH48-050	751019 144	2084152 45	Acetone	13	5 5	-	2	2	102000000	211000	ug/kg
	CH48-050	751019 144	2084152 45	Americium-241	6 74	0 238	0 02	2	2	76	1900	pCi/g
	CH48-050	751019 144	2084152 45	Americium-241	10 88	0 7027	0 02	2	2	76	1900	pCi/g
	CH48-050	751019 144	2084152 45	Methylene chloride	2 2	0 95	-	2	2	2530000	39500	ug/kg
	CH48-050	751019 144	2084152 45	Plutonium-239/240	5 68	0 179	0 02	2	2	50	3800	pCi/g
	CH48-050	751019 144	2084152 45	Plutonium-239/240	62 016	0 7027	0 02	2	2	50	3800	pCi/g
	CH48-050	751019 144	2084152 45	Uranium, Total	12 3552	4 0392	3 04	2	2	2750	67 8	mg/kg
	CH48-050	751019 144	2084152 45	Uranium, Total	15 1262	4 94505	3 04	2	2	2750	67 8	mg/kg
	CH48-050	751019 144	2084152 45	Uranium-234	5 093	1 665	2 64	2	2	300	1800	pCi/g
	CH48-050	751019 144	2084152 45	Uranium-235	0 2498	0 1249	0 12	2	2	8	1900	pCi/g
	CH48-050	751019 144	2084152 45	Uranium-238	5 093	1 665	1 49	2	2	351	1600	pCi/g
Tank 16 (Tanks 66 and 67)	CH48-041	2084143 870	751051 26	Acenaphthene	48	39	-	4	4	40800000	-	ug/kg
	CH48-041	2084143 870	751051 26	Aluminum	19000	6 1	16902	4	4	228000	-	mg/kg
	CH48-041	2084143 870	751051 26	Americium-241	90 55	1 22	0 0227	4	4	76	1900	pCi/g
	CH48-041	2084143 870	751051 26	Americium-241	57 5	0 0844	0 0227	4	4	76	1900	pCi/g
	CH48-041	2084143 870	751051 26	Benzo(a)anthracene	56	31	-	4	4	34900	800000	ug/kg
	CH48-041	2084143 870	751051 26	Chromium	17	0 19	16 9899998	4	4	268	-	mg/kg
	CH48-041	2084143 870	751051 26	Chrysene	80	35	-	4	4	3490000	-	ug/kg
	CH48-041	2084143 870	751051 26	Fluoranthene	180	29	-	4	4	27200000	-	ug/kg
	CH48-041	2084143 870	751051 26	Methylene chloride	1 5	0 99	-	4	4	2530000	39500	ug/kg
	CH48-041	2084143 870	751051 26	Naphthalene	1 7	1 1	-	4	4	3090000	-	ug/kg
	CH48-041	2084143 870	751051 26	Plutonium-239/240	516 135	1 22	0 066	4	4	50	3800	pCi/g
	CH48-041	2084143 870	751051 26	Plutonium-239/240	44 9	0 167	0 066	4	4	50	3800	pCi/g
	CH48-041	2084143 870	751051 26	Pyrene	180	170	-	4	4	22100000	-	ug/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start (ft)	Depth End (ft)	WRW AL	Ecological AL	Units
	CH48-041	2084143 870	751051 26	Strontium	55	0 073	48 939	4	4	613000	-	mg/kg
	CH48-041	2084143 870	751051 26	Uranium-235	0 2086	0 134	0 0939	4	4	8	1900	pCi/g
	CH48-042	2084144 159	751043 89	Americium-241	4 994	0 7498	0 0227	4	4	76	1900	pCi/g
	CH48-042	2084144 159	751043 89	Americium-241	11 3	0 219	0 0227	4	4	76	1900	pCi/g
	CH48-042	2084144 159	751043 89	Chromium	17	0 18	16 989	4	4	268	-	mg/kg
	CH48-042	2084144 159	751043 89	Methylene chloride	1 5	1	-	4	4	2530000	39500	ug/kg
	CH48-042	2084144 159	751043 89	Plutonium-239/240	7	0 0673	0 066	4	4	50	3800	pCi/g
	CH48-042	2084144 159	751043 89	Plutonium-239/240	28 4658	0 7498	0 066	4	4	50	3800	pCi/g
	CH48-042	2084144 159	751043 89	Strontium	52	0 069	48 93	4	4	613000	-	mg/kg
	CH48-042	2084144 159	751043 89	Uranium, Total	11 583	5 346	5 98	4	4	2750	67 8	mg/kg
	CH48-042	2084144 159	751043 89	Uranium, Total	14 948	6 89931	5 98	4	4	2750	67 8	mg/kg
	CH48-042	2084144 159	751043 89	Uranium-234	5 033	2 323	2 253	4	4	300	1800	pCi/g
	CH48-042	2084144 159	751043 89	Uranium-235	0 3007	0 1549	0 093	4	4	8	1900	pCi/g
	CH48-042	2084144 159	751043 89	Uranium-235	0 416	0 203	0 093	4	4	8	1900	pCi/g
	CH48-042	2084144 159	751043 89	Uranium-238	5 033	2 323	2	4	4	351	1600	pCi/g
	CH48-043	2084144	751037 8	1,1-Dichloroethene	1 3	1 3	-	4	4	17000	-	ug/kg
	CH48-043	2084144	751037 8	2-Butanone	7	5 6	-	4	4	192000000	433000	ug/kg
	CH48-043	2084144	751037 8	2-Methylnaphthalene	110	38	-	4	4	20400000	-	ug/kg
	CH48-043	2084144	751037 8	4-Methyl-2-pentanone	6 2	4 7	-	4	4	16400000	-	ug/kg
	CH48-043	2084144	751037 8	Acenaphthene	350	37	-	4	4	40800000	-	ug/kg
	CH48-043	2084144	751037 8	Americium-241	252 4	1 78	0 0227	4	4	76	1900	pCi/g
	CH48-043	2084144	751037 8	Americium-241	226	0 137	0 0227	4	4	76	1900	pCi/g
	CH48-043	2084144	751037 8	Anthracene	430	28	-	4	4	204000000	-	ug/kg
	CH48-043	2084144	751037 8	Benzo(a)anthracene	580	29	-	4	4	34900	800000	ug/kg
	CH48-043	2084144	751037 8	Benzo(a)pyrene	480	48	-	4	4	3490	25700	ug/kg
	CH48-043	2084144	751037 8	Benzo(b)fluoranthene	350	34	-	4	4	34900	1010000	ug/kg
	CH48-043	2084144	751037 8	Benzo(k)fluoranthene	430	38	-	4	4	349000	1010000	ug/kg
	CH48-043	2084144	751037 8	Beryllium	1 1	0 12	0 96600002	4	4	921	2 15	mg/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start (ft)	Depth End (ft)	WRW AL	Ecological AL	Units
	CH48-043	2084144	751037 8	Chrysene	600	33	-	4	4	3490000	-	ug/kg
	CH48-043	2084144	751037 8	Dibenzofuran	170	43	-	4	4	2950000	-	ug/kg
	CH48-043	2084144	751037 8	Fluoranthene	1400	27	-	4	4	27200000	-	ug/kg
	CH48-043	2084144	751037 8	Fluorene	310	40	-	4	4	40800000	-	ug/kg
	CH48-043	2084144	751037 8	Indeno(1,2,3-cd)pyrene	250	27	-	4	4	34900	39500	ug/kg
	CH48-043	2084144	751037 8	Iron	34000	1 6	18037	4	4	307000	-	mg/kg
	CH48-043	2084144	751037 8	Methylene chloride	1 5	0 96	-	4	4	2530000	-	ug/kg
	CH48-043	2084144	751037 8	Naphthalene	260	38	-	4	4	3090000	-	ug/kg
	CH48-043	2084144	751037 8	Naphthalene	4 7	1	-	4	4	3090000	3800	ug/kg
	CH48-043	2084144	751037 8	Nickel	29	0 23	14 909	4	4	20400	3800	mg/kg
	CH48-043	2084144	751037 8	Plutonium-239/240	93 2	0 157	0 066	4	4	50	-	pCi/g
	CH48-043	2084144	751037 8	Plutonium-239/240	1438 68	1 78	0 066	4	4	50	-	pCi/g
	CH48-043	2084144	751037 8	Pyrene	1400	160	-	4	4	22100000	67 8	ug/kg
	CH48-043	2084144	751037 8	Strontium	52	0 068	48 9399	4	4	613000	1800	mg/kg
	CH48-043	2084144	751037 8	Uranium, Total	6 70923	4 16097	5 98	4	4	2750	1900	mg/kg
	CH48-043	2084144	751037 8	Uranium-234	2 259	1 401	2 253	4	4	300	1900	pCi/g
	CH48-043	2084144	751037 8	Uranium-235	0 1376	0 1208	0 0939	4	4	8	1600	pCi/g
	CH48-043	2084144	751037 8	Uranium-235	0 344	0 176	0 0939	4	4	8	-	pCi/g
	CH48-043	2084144	751037 8	Uranium-238	2 259	1 401	2	4	4	351	-	pCi/g
	CH48-043	2084144	751037 8	Zinc	78	0 53	73 7600021	4	4	307000	-	mg/kg
	CH48-044	2084131	751037 3	Acenaphthene	120	36	-	4	4	40800000	-	ug/kg
	CH48-044	2084131	751037 3	Americium-241	445 8	2 286	0 0227	4	4	76	1900	pCi/g
	CH48-044	2084131	751037 3	Americium-241	206	0 126	0 0227	4	4	76	1900	pCi/g
	CH48-044	2084131	751037 3	Anthracene	130	27	-	4	4	204000000	-	ug/kg
	CH48-044	2084131	751037 3	Benzo(a)anthracene	230	29	-	4	4	34900	800000	ug/kg
	CH48-044	2084131	751037 3	Benzo(a)pyrene	200	47	-	4	4	3490	25700	ug/kg
	CH48-044	2084131	751037 3	Benzo(b)fluoranthene	150	33	-	4	4	34900	1010000	ug/kg
	CH48-044	2084131	751037 3	Benzo(k)fluoranthene	190	37	-	4	4	349000	1010000	ug/kg

IHSS/PAC/UBC Site	Location Code	Actual Easting	Actual Northing	Analyte	Result	Detection Limit	Background Mean + 2 SD	Depth Start (ft)	Depth End (ft)	WRW AL	Ecological AL	Units
	CH48-044	2084131	751037 3	Beryllium	1 2	0 11	0 96600002	4	4	921	2 15	mg/kg
	CH48-044	2084131	751037 3	Chrysene	280	32	-	4	4	3490000	-	ug/kg
	CH48-044	2084131	751037 3	Dibenzofuran	50	42	-	4	4	2950000	-	ug/kg
	CH48-044	2084131	751037 3	Fluoranthene	600	26	-	4	4	27200000	-	ug/kg
	CH48-044	2084131	751037 3	Fluorene	83	39	-	4	4	40800000	-	ug/kg
	CH48-044	2084131	751037 3	Indeno(1,2,3-cd)pyrene	120	26	-	4	4	34900	-	ug/kg
	CH48-044	2084131	751037 3	Iron	22000	1 6	18037	4	4	307000	-	mg/kg
	CH48-044	2084131	751037 3	Methylene chloride	1 5	0 96	-	4	4	2530000	39500	ug/kg
	CH48-044	2084131	751037 3	Nickel	17	0 22	14 9099998	4	4	20400	-	mg/kg
	CH48-044	2084131	751037 3	Plutonium-239/240	61 1	0 143	0 066	4	4	50	3800	pCi/g
	CH48-044	2084131	751037 3	Plutonium-239/240	2541 06	2 286	0 066	4	4	50	3800	pCi/g
	CH48-044	2084131	751037 3	Pyrene	550	160	-	4	4	22100000	-	ug/kg
	CH48-045	2084130 56	751025 5	Americium-241	31 47	0 6461	0 0227	3	4	76	1900	pCi/g
	CH48-045	2084130 56	751025 5	Plutonium-239/240	179 379	0 6461	0 066	3	4	50	3800	pCi/g
	CH48-045	2084130 56	751025 5	Uranium-235	0 1095	0 1031	0 0939	3	4	8	1900	pCi/g
	CH48-046	2084140 32	751039 77	Americium-241	6 57	0 5753	0 0227	3	4	76	1900	pCi/g
	CH48-046	2084140 32	751039 77	Plutonium-239/240	37 449	0 5753	0 066	3	4	50	3800	pCi/g
	CH48-046	2084140 32	751039 77	Uranium, Total	9 6228	4 1877	5 98	3	4	2750	67 8	mg/kg
	CH48-046	2084140 32	751039 77	Uranium, Total	11 39	4 95693	5 98	3	4	2750	67 8	mg/kg
	CH48-046	2084140 32	751039 77	Uranium-234	3 835	1 669	2 253	3	4	300	1800	pCi/g
	CH48-046	2084140 32	751039 77	Uranium-235	0 2332	0 1314	0 0939	3	4	8	1900	pCi/g
	CH48-046	2084140 32	751039 77	Uranium-238	3 835	1 669	2	3	4	351	1600	pCi/g

Table 13
RFCA Radionuclide SORs for Confirmation Samples

Location	Start Depth (ft)	End Depth (ft)	SOR
CH48-041	4 0	4 0	6 811
CH48-042	4 0	4 0	0 641
CH48-043	4 0	4 0	19 575
CH48-044	4 0	4 0	31 026
CH48-045	3 0	4 0	1 974
CH48-046	3 0	4 0	0 462
CH48-050	2 0	2 0	0 878

Table 14
Sampling Summary

Category	Characterization Samples	Tank Samples	Confirmation Samples
Number of Sampling Locations	145	3	6
Number of Samples	442	9	18
Number of Radionuclide Analyses	145	3	6
Number of Metal Analyses	125	0	6
Number of VOC Analyses	40	0	0
Number of SVOC Analyses	57	3	6
Number of PCB Analyses	22	0	0
Number of Nitrate Analyses	25	0	0

4.1 Waste Management

Waste from the IHSS Group 700-4 accelerated action consisted of fill material and soil Approximately 2,112 cu ft of low-level waste were generated during this accelerated action Waste types, volumes, and disposition are presented in Table 15

Excavated soil was loaded into waste crates at the excavation site Samples were collected from the soil stockpiles to determine the final disposition of the excavated soil

4.2 Site Reclamation

All excavated areas will be backfilled after confirmation sampling results are received and discussed with regulatory agencies through the consultative process Final backfilling and reseeding at the former Tanks 14 and 16 locations will follow final regrading of the 700-4 area

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Table 15
Waste Characterization Summary

Container Number	Extended Number	Container Type	Volume (cu.ft.)	Waste Type	Gross Weight (lbs)	Status	IDC	Waste Codes	Disposition
B07252	02-69103	IP1	90		5480		374		
B07250	02-69102	IP1	90		5730		374		
B07247	02-69106	IP1	90		6000		374		
B07241	02-69108	IP1	90		7204		374		
B07240	02-69107	IP1	90		6094		374		
B07048	02-69203	IP1	90		5684		374		
B06992	02-69104	IP1	90		5080		374		
B06987	02-69201	IP1	90		6448		374		
B07256	02-69207	IP1	90		5620		374		
B07251	02-69204	IP1	90		6146		374		
B07244	02-69202	IP1	90		6444		374		
B07043	02-69105	IP1	90		6810		374		
B07042	02-69208	IP1	90		6224		374		
B07040	02-69206	IP1	90		6244		374		
B06988	02-69205	IP1	90		5866		374		
X31781	0771-07509	IP1	44		2522		374		
X31795	0771-07511	IP1	44		2520		374		
X31793	0771-07510	IP1	44		2244		374		
B07252	02-69103	IP1	90		5480		374		

Container Number	Extended Number	Container Type	Volume (cu.ft.)	Waste Type	Gross Weight (lbs)	Status	IDC	Waste Codes	Disposition
B07250	02-69102	IP1	90		5730		374		
B07247	02-69106	IP1	90		6000		374		
B07241	02-69108	IP1	90		7204		374		
B07240	02-69107	IP1	90		6094		374		
B07048	02-69203	IP1	90		5684		374		
B06992	02-69104	IP1	90		5080		374		
B06987	02-69201	IP1	90		6448		374		

4.3 Accelerated Action Goals

ER RSOP Notification accelerated action objectives for IHSS Group 700-4 were achieved through the removal of soil and fill material to satisfy RFCA Attachment 5 requirements

Removal activities were consistent with and contributed to the ER RSOP overall long-term remedial action objectives (RAOs) for RFETS soil This contribution is described below

RAO 1 Provide a remedy consistent with the RFETS goal of protection of human health and the environment Removal of soil and fill material with contaminant concentrations greater than RFCA WRW ALs contributed to the protection of human health and the environment because potential sources of contamination were removed

RAO 2 Provide a remedy that minimizes the need for long-term maintenance and institutional or engineering controls Removal of soil and fill material with contaminant concentrations greater than RFCA WRW ALs minimizes the need for long-term maintenance and institutional or engineering controls because potential sources of contamination were removed

RAO 3 Minimize the spread of contaminants during implementation of accelerated actions Best management practices (BMPs) were used to prevent the spread of contaminants during the accelerated action Air monitoring data during the accelerated action did not indicate any exceedances

5.0 POST-REMEDIATION CONDITIONS

Residual contaminant concentrations at Tanks 14 and 16, consisting of characterization and confirmation sampling locations, and backfill greater than background means plus two standard deviations or DLs at IHSS Group 700-4 are shown on Figure11

The following conditions currently exist at IHSS Group 700-4

- The potential source of contamination that had existed at IHSS Group 700-4 (i e , the plutonium-239/240 and americium-241 hot spot beneath Tank 16) was removed,
- Surface soil contaminant concentrations greater than background means plus two standard deviations or DLs includes metals, SVOCs, and radionuclides in IHSS soil surrounding Buildings 771 and 774, and
- Subsurface soil contaminant concentrations greater than RFCA WRW ALs includes radionuclides beneath UBC 774 at a depth of approximately 16 feet below ground surface (bgs) and beneath UBC 771 at a depth of approximately 30 feet bgs and beneath Tank 16 (Tanks 66 and 67) at a depth of approximately 4 feet

5.1 No Longer Representative Sampling Locations

No Longer Representative sampling locations are listed in Table 16

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Table 16
No Longer Representative Sampling Locations

NLR Sampling Locations
CH48-025
CH48-026
CH48-027
CH48-017

6.0 SUBSURFACE SOIL RISK SCREEN

The SSRS follows the steps identified in Figure 3 in Attachment 5 of the RFCA Modification (DOE et al 2003)

Screen 1 – Are the contaminant of concern (COC) concentrations below RFCA Table 3 WRW Soil Action Levels?

No As shown in Tables 4 and 12 and Figures 3 through 7 and Figure 10, americium-241, lead, and plutonium-239/240 exceed soil ALs

In two locations americium-241 exceeds the WRW AL of 76 pCi/g There are three subsurface soil locations with concentrations of lead that are greater than the ecological receptor AL of 25 6 mg/kg Three locations have plutonium-239/240 activities that are greater than the WRW ALs Elevated plutonium-239/240 activities range from 56 pCi/g at UBC771 and from 943 to 1,690 pCi/g at UBC774, approximatley 16 feet bgs (Figures 3 and 4) Soil removal was conducted at Tank 16, east of Buidling 774 Residual contamination at this location consists of plutonium-239/240 at activities greater than 50 pCi/g but less than the AL of 116 pCi/g

All other results are less than RFCA WRW ALs

Screen 2 – Is there a potential for subsurface soil to become surface soil (landslide and erosion areas identified on RFCA Attachment 5 - Figure 1)?

No As shown in Figure 1, RFCA Attachment 5, Location CC48-009 is outside the area considered prone to landslides and high erosion Location CE47-003 is in an area that has been mapped as prone to landslides, but the sample depth is approximately 30 feet below current grade and the activity is only slightly greater than the WRW AL Residual contamination beneath Tank 16 is outside the area considered prone to landslides and high erosion

Screen 3 – Does subsurface soil radiological contamination exceed criteria in Section 5.3 and Attachment 14?

No Plutonium-239/240 and americium -241 activities are only greater than 1 nCi/g below 16 feet Additionally, these data are considered cross contamination from the building concrete floor (Section 2 14)

Screen 4 – Is there an environmental pathway and sufficient quantity of COCs that would cause an exceedance of the surface water standard?

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Migration via erosion and groundwater are the two possible pathways whereby surface water could become contaminated by IHSS Group 700-4 soil or structures Migration via erosion is unlikely because elevated plutonium-239/240 and americium-241 are at least 16 feet below current grade and are not in an area prone to landslides or erosion Additionally, surface water monitoring results do not indicate activities of plutonium-239/240 or americium-241 greater than RFCA surface water ALs in surface water

The closest Point of Compliance (POC) is GS11 and it is located approximately 6,000 feet to the east of IHSS Group 700-4 There are no recent results from this POC because there have been no recent flows to measure The closest Point of Evaluation (POE) is SW093, which is located approximately 1,000 feet northeast of IHSS Group 700-4 Water leaving the IA and entering the A-Series Ponds and North Walnut Creek is monitored at this location Results (30-day averages) indicate that radionuclides are less than RFCA surface water ALs

Gauging station SW120 is approximately 700 feet to the northeast of IHSS Group 700-4 This station is a performance monitoring station in support of D&D activities for the Buildings 771/774 area Gauging station GS44 is located approximately 100 feet west of IHSS Group 700-4 and is designed to monitor runoff from the western side of Building 771, including footing drain water Recent analytical results from SW120 and GS44 indicate americium-241, plutonium-239/240, total uranium, beryllium, cadmium (dissolved), chromium, and silver (dissolved) are less than RFCA ALs and standards Additionally, arsenic concentrations are well below RFCA ALs and standards at SW 120 and GS44 The COCs of interest at IHSS Group 700-4 are summarized in Table 17

Table 17
IHSS Group 700-4 Recent Surface Water Results

Analyte	RFCA AL	GS11	SW093	SW120	GS44
Plutonium-239/240 (pCi/g)	0 15	No discharge	0 00 – 0 033	0 006 – 0 070	0 002 – 0 036
Americium-241 (pCi/g)	0 15	No discharge	0 00 –0 088	0 001 – 0 057	0 008 – 0 013
Total Uranium (pCi/g)	10	No discharge	2 563 – 4 159	1 437 – 3 395	0 154 – 2 983

Current groundwater monitoring results from D&D wells around UBC 771 and 774 indicate that carbon tetrachloride, chloroform, and PCE are greater than RFCA Tier II groundwater ALs both upgradient (Well 18199) and cross gradient (Well 20998) of the UBCs The source for this contamination is IHSS 118 1 (IHSS Group 700-3) (DOE 2002) which is also the source for exceedances at Well 20998 Neither carbon tetrachloride nor chloroform were detected at concentrations greater than RFCA groundwater ALs down gradient of IHSS Group 700-4 These analytes were not detected in soil samples from IHSS Group 700-4, and groundwater VOC contamination is not easily attributed to IHSS Group 700-4

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Further groundwater evaluation will be part of the groundwater plume remedial decision and future sitewide evaluation

Screen 5 – Are COC concentrations below Table 3 Action Levels for Ecological Receptors?

No Lead exceeds the ecological receptor AL at six locations in IHSS Group 700-4 All other COC concentrations are below the ALs for ecological receptors Ecological factors will be evaluated in the Accelerated Action Ecological Screening Process and the CRA

6.1 Summary

Based on analytical results and the SSRS, further action is not required, and an NFAA determination is justified for IHSS Group 700-4 because of the following

- Plutonium-239/240 and americium-241 exceedances at UBCs 771 and 774 are related to cross contamination from building concrete or paint,
- Plutonium-239/240 and americium-241 exceedances at UBCs 771 and 774 are approximately 16 feet below grade,
- A soil removal action was completed that removed contaminated soil beneath Tank 16 to less than 1 nCi/g activity,
- Migration of contaminants to surface water through erosion is unlikely because the results greater than WRW ALs are well below the ground surface (approximately 16 feet) and at UBC 774 not in an area prone to landslides or erosion, and
- Migration of contaminants from groundwater to surface water is unlikely because although there is groundwater contamination in the area, the most likely source is IHSS Group 700-3 (IHSS 118 1) The groundwater contamination is considered part of the IA Plume, which will be further evaluated in a future decision document

Approval of this Closeout Report constitutes regulatory agency concurrence that this IHSS Group is an NFAA site This information and the NFAA determination will be documented in the FY04 HRR.

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7.0 STEWARDSHIP EVALUATION

The IHSS Group 700-4 stewardship evaluation was conducted through ongoing consultation with the regulatory agencies The regulatory agencies were informed through frequent project updates, e-mails, telephone contacts, and personal contacts throughout the project duration Copies of these documents are in Appendix A

7.1.1 Current Site Conditions

As discussed in Section 2 0, the accelerated action at IHSS Group 700-4 consisted of removal of soil with americium-241 and plutonium-239/240 activities greater than RFCA WRW ALs beneath Tank 16 Section 5 0 presents residual contamination information

The following conditions currently exist at IHSS Group 700-4

- The potential source of contamination that had existed at IHSS Group 700-4 (i e , the plutonium-239/240 and americium-241 hot spot beneath Tank 16) was removed,
- Surface soil contaminant concentrations greater than background means plus two standard deviations or DLs includes metals, SVOCs, and radionuclides in IHSS Group 700-4, and
- Subsurface soil contaminant concentrations greater than RFCA WRW ALs includes radionuclides beneath UBC 774 at a depth of approximately 16 feet bgs and beneath UBC 771 at a depth of approximately 30 feet bgs

7.1.2 Near-Term Management Recommendations

The accelerated action for IHSS Group 700-4 met the accelerated action objectives Contaminant concentrations in soil remaining at IHSS Group 700-4 do not trigger any further accelerated action Potential contaminant sources and pathways have been removed, mitigated, or found not to have existed Excavation at the site will continue to be controlled through the Site soil disturbance permit process Fencing and signs restricting access will be posted to minimize disturbance to newly revegetated areas Site access and security controls and the soil disturbance permit process will remain in place pending the implementation of long-term controls No other near-term management techniques are required because of environmental conditions

7.1.3 Long-Term Stewardship Recommendations

Residual SVOC and metals contamination in surface soil and radionuclide contamination in subsurface soil will be analyzed in the Sitewide CRA, which is part of the RCRA Facility Investigation/Remedial Investigation and Corrective Measures Study/Feasibility Study (RFI/RI and CMS/FS) that will be conducted for the Site The need for and extent of any, more general, long term stewardship activities will also be analyzed in the RFI/RI and CMS/FS and will be proposed as part of the preferred alternative in the Proposed Plan for the Site Institutional controls and other long term stewardship requirements for Rocky Flats will ultimately be contained in Corrective Action Decision/Record of Decision (CAD/RODs), in any post-closure Colorado Hazardous Waste Act permit that may be required, and in any post-RFCA agreement

No specific long term stewardship activities are recommended for IHSS Group 700-4 beyond the generally applicable Site requirements that may be imposed on this area in the

future, which are dependent upon the final remedy selected Institutional controls that will be used as appropriate for this area include prohibitions on construction of buildings in the IA, restrictions on excavation or other soil disturbance, or prohibitions on groundwater pumping in the area of IHSS Group 700-4

No specific engineered controls are anticipated as a result of the conditions remaining in IHSS Group 700-4

No specific environmental monitoring is anticipated as a result of the conditions remaining in IHSS Group 700-4

This closeout report and associated documentation will be retained as part of the Rocky Flats administrative record file These specific long-term stewardship recommendations will also be summarized in the Rocky Flats Long Term Stewardship Strategy

7.1.4 Accelerated Action Stewardship

Stewardship actions that were implemented during the accelerated action included air monitoring, posting signs and barriers, including yellow chain and jersey barriers

8.0 DATA QUALITY ASSESSMENT

The Data Quality Objectives (DQOs) for this project are described in the IASAP (DOE 2001a) All DQOs for this project were achieved based on the following

- Regulatory agency approved sampling program design (IASAP Addendum #03-01 [DOE 2002),
- Collection of samples in accordance with the sampling design, and
- Results of the Data Quality Assessment as described in the following sections

8.1 Data Quality Assessment Process

The DQA process ensures that the type, quantity and quality of environmental data used in decision making are defensible, and is based on the following guidance and requirements

- EPA QA/G-4, 1994a, Guidance for the Data Quality Objective Process,
- EPA QA/G-9, 1998, Guidance for the Data Quality Assessment Process, Practical Methods for Data Analysis, and
- DOE Order 414 1A, 1999, Quality Assurance

Verification and validation (V&V) of the data are the primary components of the DQA The final data are compared with original project DQOs and evaluated with respect to project decisions, uncertainty within the decisions, and quality criteria required for the data, specifically precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) Validation criteria are consistent with the following RFETS-specific documents and industry guidelines

- EPA 540/R-94/012, 1994b, USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review,

- EPA 540/R-94/013, 1994c, USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, and
- Kaiser-Hill Company, L L C (K-H) V&V Guidelines
  - General Guidelines for Data Verification and Validation, DA-GR01-v1, 2002a
  - V&V Guidelines for Isotopic Determinations by Alpha Spectrometry, DA-RC01-v1, 2002b
  - V&V Guidelines for Volatile Organics, DA-SS01-v1, 2002c
  - V&V Guidelines for Semivolatile Organics, DA-SS02-v1, 2002d
  - V&V Guidelines for Metals, DA-SS05-v1, 2002e
- Lockheed-Martin, 1997, Evaluation of Radiochemical Data Usability, ES/ER/MS-5

This report will be submitted to the Comprehensive Environmental, Response, Compensation and Liability Act (CERCLA) Administrative Record (AR) for permanent storage 30 days after being provided to CDPHE and/or U S EPA

8.2 Verification and Validation of Results

Verification ensures that data produced and used by the project are documented and traceable in accordance with quality requirements Validation consists of a technical review of all data that directly support the project decisions so that any limitations of the data relative to project goals are delineated and the associated data are qualified accordingly The V&V process defines the criteria that constitute data quality, namely PARCCS parameters Data traceability and archival are also addressed V&V criteria include the following

- Chain-of-custody,
- Preservation and hold-times,
- Instrument calibrations,
- Preparation blanks,
- Interference check samples (metals),
- Matrix spikes/matrix spike duplicates (MS/MSD),
- Laboratory control samples (LCS),
- Field duplicate measurements,
- Chemical yield (radiochemistry),
- Required quantitation limits/minimum detectable activities (sensitivity of chemical and radiochemical measurements, respectively), and
- Sample analysis and preparation methods

Evaluation of V&V criteria ensures that PARCCS parameters are satisfactory (i e , within tolerances acceptable to the project) Satisfactory V&V of laboratory quality controls are captured through application of validation "flags"or qualifiers to individual records

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Raw hardcopy data (e g , individual analytical data packages) are currently filed by RIN and are maintained by Kaiser-Hill Analytical Services Division, older hardcopies may reside in the Federal Center in Lakewood, Colorado Electronic data are stored in the RFETS Soil and Water Database

QC data, as of November 11, 2003 are included on the enclosed CDs

8.2.1 Accuracy

The following measures of accuracy were evaluated

- Laboratory Control Sample Evaluation,
- Surrogate Evaluation,
- Field Blanks, and
- Sample Matrix Spike Evaluation

Results are compared to method requirements and project goals The results of these comparisons are summarized for RFCA COCs where the result could impact project decisions Particular attention is paid to those values near ALs when quality control (QC) results could indicate unacceptable levels of uncertainty for decision-making purposes

Laboratory Control Sample Evaluation

The frequency of Laboratory Control Sample (LCS) measurements, relative to each laboratory batch, is presented in Table 18 LCS frequency was adequate based on at least one LCS per batch The minimum and maximum LCS results are also tabulated, by chemical, for the entire project While not all LCS results are within tolerances, project decisions based on AL exceedances were not affected Any qualifications of results due to LCS performance exceeding upper or lower tolerance limits are captured in the V&V flags, described in the Completeness Section

Table18
Laboratory Control Sample Evaluation

CAS No	Analyte	Minimum	Maximum	Number of Laboratory Samples	Number of Laboratory Batches	Units	Test Method
71-55-6	1,1,1-Trichloroethane	83 91	116 8	14	14	%REC	SW-846 8260
79-34-5	1,1,2,2-Tetrachloroethane	71	127 9	14	14	%REC	SW-846 8260
79-00-5	1,1,2-Trichloroethane	75	123 2	14	14	%REC	SW-846 8260
75-34-3	1,1-Dichloroethane	79 69	116 6	14	14	%REC	SW-846 8260
75-35-4	1,1-Dichloroethene	74	134 8	14	14	%REC	SW-846 8260
75-35-4	1,1-Dichloroethene	72 8	110	9	9	%REC	SW-846 8260 LOW LEVEL
120-82-1	1,2,4-Trichlorobenzene	87	140 9	14	14	%REC	SW-846 8260
120-82-1	1,2,4-Trichlorobenzene	58	76	18	18	%REC	SW-846 8270
95-50-1	1,2-Dichlorobenzene	85	114 7	14	14	%REC	SW-846 8260
107-06-2	1,2-Dichloroethane	74 31	111 2	14	14	%REC	SW-846 8260
78-87-5	1,2-Dichloropropane	79	113 6	14	14	%REC	SW-846 8260

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CAS No	Analyte	Minimum	Maximum	Number of Laboratory Samples	Number of Laboratory Batches	Unit	Test Method
106-46-7	1,4-Dichlorobenzene	87	121 3	14	14	%REC	SW-846 8260
95-95-4	2,4,5-Trichlorophenol	57	80	18	18	%REC	SW-846 8270
88-06-2	2,4,6-Trichlorophenol	58	79	18	18	%REC	SW-846 8270
120-83-2	2,4-Dichlorophenol	60	76	18	18	%REC	SW-846 8270
105-67-9	2,4-Dimethylphenol	60	78	18	18	%REC	SW-846 8270
51-28-5	2,4-Dinitrophenol	37	81	18	18	%REC	SW-846 8270
121-14-2	2,4-Dinitrotoluene	59	83	18	18	%REC	SW-846 8270
606-20-2	2,6-Dinitrotoluene	60	78	18	18	%REC	SW-846 8270
78-93-3	2-Butanone	56 63	102	14	14	%REC	SW-846 8260
91-58-7	2-Chloronaphthalene	59	73	18	18	%REC	SW-846 8270
95-57-8	2-Chlorophenol	62	75	18	18	%REC	SW-846 8270
91-57-6	2-Methylnaphthalene	59	73	18	18	%REC	SW-846 8270
95-48-7	2-Methylphenol	57	70	18	18	%REC	SW-846 8270
88-74-4	2-Nitroaniline	58	77	18	18	%REC	SW-846 8270
91-94-1	3,3'-Dichlorobenzidine	36	99	18	18	%REC	SW-846 8270
534-52-1	4,6-Dinitro-2-methylphenol	47	80	18	18	%REC	SW-846 8270
106-47-8	4-Chloroaniline	19	48	18	18	%REC	SW-846 8270
108-10-1	4-Methyl-2-pentanone	80	123 5	14	14	%REC	SW-846 8260
106-44-5	4-Methylphenol	55	72	18	18	%REC	SW-846 8270
100-02-7	4-Nitrophenol	59	89	18	18	%REC	SW-846 8270
83-32-9	Acenaphthene	57	72	18	18	%REC	SW-846 8270
67-64-1	Acetone	43 48	105 9	14	14	%REC	SW-846 8260
7429-90-5	Aluminum	87	106	8	8	%REC	SW-846 6010
120-12-7	Anthracene	58	76	18	18	%REC	SW-846 8270
7440-36-0	Antimony	88	98	8	8	%REC	SW-846 6010
12674-11-2	Aroclor-1016	73	112	12	12	%REC	SW-846 8082
11096-82-5	Aroclor-1260	83	108	12	12	%REC	SW-846 8082
7440-38-2	Arsenic	87	99	8	8	%REC	SW-846 6010
7440-39-3	Barium	94	105	8	8	%REC	SW-846 6010
71-43-2	Benzene	79	112 5	14	14	%REC	SW-846 8260
71-43-2	Benzene	88 4	100	9	9	%REC	SW-846 8260 LOW LEVEL
56-55-3	Benzo(a)anthracene	55	74	18	18	%REC	SW-846 8270
50-32-8	Benzo(a)pyrene	56	74	18	18	%REC	SW-846 8270
205-99-2	Benzo(b)fluoranthene	52	76	18	18	%REC	SW-846 8270
207-08-9	Benzo(k)fluoranthene	54	75	18	18	%REC	SW-846 8270
65-85-0	Benzoic Acid	10	67	18	18	%REC	SW-846 8270
100-51-6	Benzyl Alcohol	61	77	18	18	%REC	SW-846 8270
7440-41-7	Beryllium	95	107	8	8	%REC	SW-846 6010
111-44-4	bis(2-Chloroethyl)ether	45	92	18	18	%REC	SW-846 8270
39638-32-9	bis(2-Chloroisopropyl)ether	59	76	18	18	%REC	SW-846 8270
117-81-7	bis(2-Ethylhexyl)phthalate	56	76	18	18	%REC	SW-846 8270

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CAS No	Analyte	Minimum	Maximum	Number of Laboratory Samples	Number of Laboratory Batches	Unit	Test Method
75-27-4	Bromodichloromethane	90 3	118 3	14	14	%REC	SW-846 8260
75-25-2	Bromoform	84 05	123 8	14	14	%REC	SW-846 8260
74-83-9	Bromomethane	57 22	151 3	14	14	%REC	SW-846 8260
7440-43-9	Cadmium	91	101	8	8	%REC	SW-846 6010
75-15-0	Carbon Disulfide	83 92	134 4	14	14	%REC	SW-846 8260
56-23-5	Carbon Tetrachloride	78 84	116 2	14	14	%REC	SW-846 8260
108-90-7	Chlorobenzene	83	114 9	14	14	%REC	SW-846 8260
108-90-7	Chlorobenzene	89	115	9	9	%REC	SW-846 8260 LOW LEVEL
75-00-3	Chloroethane	68 58	161 1	14	14	%REC	SW-846 8260
67-66-3	Chloroform	83 58	118	14	14	%REC	SW-846 8260
67-66-3	Chloroform	108	117	3	3	%REC	SW-846 8260 LOW LEVEL
74-87-3	Chloromethane	63 64	181 5	14	14	%REC	SW-846 8260
7440-47-3	Chromium	92	104	8	8	%REC	SW-846 6010
218-01-9	Chrysene	55	77	18	18	%REC	SW-846 8270
10061-01-5	cis-1,3-Dichloropropene	69 4	117	14	14	%REC	SW-846 8260
7440-48-4	Cobalt	89	100	8	8	%REC	SW-846 6010
7440-50-8	Copper	90	102	8	8	%REC	SW-846 6010
53-70-3	Dibenz(a,h)anthracene	49	79	18	18	%REC	SW-846 8270
132-64-9	Dibenzofuran	58	77	18	18	%REC	SW-846 8270
124-48-1	Dibromochloromethane	88 39	120 5	14	14	%REC	SW-846 8260
84-66-2	Diethylphthalate	62	82	18	18	%REC	SW-846 8270
131-11-3	Dimethylphthalate	60	75	18	18	%REC	SW-846 8270
84-74-2	Di-n-butylphthalate	61	78	18	18	%REC	SW-846 8270
117-84-0	Di-n-octylphthalate	55	79	18	18	%REC	SW-846 8270
100-41-4	Ethylbenzene	81	115 4	14	14	%REC	SW-846 8260
206-44-0	Fluoranthene	58	77	18	18	%REC	SW-846 8270
86-73-7	Fluorene	59	77	18	18	%REC	SW-846 8270
118-74-1	Hexachlorobenzene	58	79	18	18	%REC	SW-846 8270
87-68-3	Hexachlorobutadiene	83 43	127 4	14	14	%REC	SW-846 8260
87-68-3	Hexachlorobutadiene	57	82	18	18	%REC	SW-846 8270
77-47-4	Hexachlorocyclopentadiene	46	84	18	18	%REC	SW-846 8270
67-72-1	Hexachloroethane	60	75	18	18	%REC	SW-846 8270
193-39-5	Indeno(1,2,3-cd)pyrene	50	74	18	18	%REC	SW-846 8270
7439-89-6	Iron	93	105	8	8	%REC	SW-846 6010
78-59-1	Isophorone	79	98	18	18	%REC	SW-846 8270
7439-92-1	Lead	91	101	8	8	%REC	SW-846 6010
7439-93-2	Lithium	90	104	8	8	%REC	SW-846 6010
7439-96-5	Manganese	91	103	8	8	%REC	SW-846 6010
7439-97-6	Mercury	90	104	7	7	%REC	SW-846 6010
75-09-2	Methylene chloride	76	121 5	14	14	%REC	SW-846 8260

CAS No	Analyte	Minimum	Maximum	Number of Laboratory Samples	Number of Laboratory Batches	Unit	Test Method
7439-98-7	Molybdenum	87	98	8	8	%REC	SW-846 6010
91-20-3	Naphthalene	79	125 8	14	14	%REC	SW-846 8260
91-20-3	Naphthalene	59	72	18	18	%REC	SW-846 8270
7440-02-0	Nickel	91	100	8	8	%REC	SW-846 6010
14797-55-8	Nitrate	98	98	2	2	%REC	E300 0, E352 1, E353 1, E353 2
14797-55-8	Nitrate	96	101	12	12	%REC	SW9056 OR E300 0 PREP E300 0
98-95-3	Nitrobenzene	62	76	18	18	%REC	SW-846 8270
86-30-6	n-Nitrosodiphenylamine	66	85	18	18	%REC	SW-846 8270
621-64-7	n-Nitrosodipropylamine	59	74	18	18	%REC	SW-846 8270
87-86-5	Pentachlorophenol	34	67	18	18	%REC	SW-846 8270
108-95-2	Phenol	58	75	18	18	%REC	SW-846 8270
129-00-0	Pyrene	56	72	18	18	%REC	SW-846 8270
7782-49-2	Selenium	82	99	8	8	%REC	SW-846 6010
7440-22-4	Silver	91	102	8	8	%REC	SW-846 6010
7440-24-6	Strontium	93	103	8	8	%REC	SW-846 6010
100-42-5	Styrene	80	110 7	14	14	%REC	SW-846 8260
127-18-4	Tetrachloroethene	89	153	14	14	%REC	SW-846 8260
7440-31-5	Tin	87	98	8	8	%REC	SW-846 6010
108-88-3	Toluene	77	124	14	14	%REC	SW-846 8260
108-88-3	Toluene	85	109	9	9	%REC	SW-846 8260 LOW LEVEL
10061-02-6	trans-1,3-Dichloropropene	89	133 4	14	14	%REC	SW-846 8260
79-01-6	Trichloroethene	86 25	123 4	14	14	%REC	SW-846 8260
79-01-6	Trichloroethene	90	111	9	9	%REC	SW-846 8260 LOW LEVEL
11-09-7	Uranium, Total	94	107	8	8	%REC	SW-846 6010
7440-62-2	Vanadium	91	103	8	8	%REC	SW-846 6010
75-01-4	Vinyl chloride	59 35	195 7	14	14	%REC	SW-846 8260
1330-20-7	Xylene	80	113 6	14	14	%REC	SW-846 8260
7440-66-6	Zinc	90	99	8	8	%REC	SW-846 6010

Surrogate Evaluation

The frequency of surrogate measurements, relative to each laboratory batch, is given in Table 19 Surrogate frequency was adequate based on at least one set per sample The minimum and maximum surrogate results are also tabulated, by chemical, for the entire project Any qualifications of results due to surrogate results are captured in the V&V flags, described in the Completeness Section

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Table 19
Surrogate Recovery Summary

VOC Surrogate Recoveries				
Number of Samples	Analyte	Minimum	Maximum	Unit Code
34	1,2-Dichloroethane -d4	87 72	129 5	%REC
34	Bromofluorobenzene	87 72	118 7	%REC
34	Toluene - d8	86 44	116 1	%REC
SVOC Surrogate Recoveries				
Number of Samples	Analyte	Minimum	Maximum	Unit Code
67	1718-51-0	Terphenyl-d14	43	82
67	321-60-8	2-Fluorobiphenyl	42	69
67	367-12-4	o-Fluorophenol	44	85
67	4165-60-0	Nitrobenzene-d5	50	84

Field Blank Evaluation

Results of the field blank analyses are given in Table 20 Detectable amounts of contaminants within the blanks, which could indicate possible cross-contamination of samples, are evaluated if the same contaminant is detected in the associated real samples When the real result is less than 10 times the blank result for laboratory contaminants and 5 times the result for non-laboratory contaminants, the real result is eliminated None of the chemicals detected in blanks were detected at concentrations greater than ALs, therefore no significant blank contamination is indicated

Table 20
Field Blank Summary

Sample QC Code	Test Method Name	Analyte	Maximum Detected Value	Unit
RNS	ALPHA SPEC	Plutonium-239/240	0 0812	pCi/L
RNS	ALPHA SPEC	Uranium-234	0 129	pCi/L
RNS	ALPHA SPEC	Americium-241	0 0484	pCi/L
RNS	GAMMA SPECTROSCOPY	Uranium-235	0 154	pCi/g
RNS	GAMMA SPECTROSCOPY	Uranium-238	2 9	pCi/g
RNS	GAMMA SPECTROSCOPY	Uranium-238	2 54	pCi/g
RNS	SW-846 6010	Aluminum	0 34	mg/L
RNS	SW-846 6010	Aluminum	0 048	mg/L
RNS	SW-846 6010	Iron	0 25	mg/L
RNS	SW-846 6010	Iron	0 074	mg/L
RNS	SW-846 6010	Lithium	0 0015	mg/L
RNS	SW-846 6010	Manganese	0 003	mg/L
RNS	SW-846 6010	Strontium	0 0065	mg/L
RNS	SW-846 6010	Barium	0 0053	mg/L
RNS	SW-846 6010	Beryllium	0 00066	mg/L
RNS	SW-846 6010	Cadmium	0 00038	mg/L
RNS	SW-846 6010	Chromium	0 0027	mg/L
RNS	SW-846 6010	Copper	0 011	mg/L
RNS	SW-846 6010	Copper	0 0017	mg/L

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Sample QC Code	Test Method Name	Analyte	Maximum Detected Value	Unit
RNS	SW-846 6010	Zinc	0 021	mg/L
RNS	SW-846 6010	Zinc	0 015	mg/L
RNS	SW-846 6010	Manganese	0 003	mg/L
TB	SW-846 8260	Toluene	6 09	ug/L
TB	SW-846 8260	Xylene	3 6	ug/L
TB	SW-846 8260	Acetone	30	ug/L
TB	SW-846 8260	Acetone	20	ug/L
TB	SW-846 8260	Benzene	2	ug/L
FB	SW-846 8260	Naphthalene	0 8	ug/L
TB	SW-846 8260	Naphthalene	1 2	ug/L
TB	SW-846 8260	Naphthalene	1	ug/L
RNS	SW9056 OR E300 0	Nitrate	0 22	mg/L

Field Blanks (Trip, Rinse, Field) results greater than detection limits (not *U* Qualified)

Sample Matrix Spike Evaluation

The frequency of MS measurements, relative to each laboratory batch, was adequate based on at least one MS per batch The minimum and maximum of MS results are summarized by chemical, for the entire project in Table 21 While some of the recoveries appear to be low, they would not result in rejection of data that affects the project decision

Table 21
Sample Matrix Spike Evaluation

CAS No.	Analyte	Minimum	Maximum	Number of Laboratory Samples	Number of Laboratory Batches	Unit	Test Method
71-55-6	1,1,1-Trichloroethane	61 28	105	11	11	%REC	SW-846 8260
79-34-5	1,1,2,2-Tetrachloroethane	49 53	102 5	11	11	%REC	SW-846 8260
79-00-5	1,1,2-Trichloroethane	66 97	97 48	11	11	%REC	SW-846 8260
75-34-3	1,1-Dichloroethane	61 6	101 6	11	11	%REC	SW-846 8260
75-35-4	1,1-Dichloroethene	49 72	95 69	11	11	%REC	SW-846 8260
75-35-4	1,1-Dichloroethene	73 8	100	7	7	%REC	SW-846 8260 LOW LEVEL
120-82-1	1,2,4-Trichlorobenzene	35 82	83 46	11	11	%REC	SW-846 8260
120-82-1	1,2,4-Trichlorobenzene	44	68	13	13	%REC	SW-846 8270
95-50-1	1,2-Dichlorobenzene	49 8	90 2	11	11	%REC	SW-846 8260
107-06-2	1,2-Dichloroethane	69 31	111	11	11	%REC	SW-846 8260
78-87-5	1,2-Dichloropropane	63 26	101 9	11	11	%REC	SW-846 8260
106-46-7	1,4-Dichlorobenzene	50 21	90 7	11	11	%REC	SW-846 8260
95-95-4	2,4,5-Trichlorophenol	49	71	13	13	%REC	SW-846 8270
88-06-2	2,4,6-Trichlorophenol	49	72	13	13	%REC	SW-846 8270
120-83-2	2,4-Dichlorophenol	47	71	13	13	%REC	SW-846 8270

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CAS No.	Analyte	Minimum	Maximum	Number of Laboratory Samples	Number of Laboratory Batches	Unit	Test Method
105-67-9	2,4-Dimethylphenol	49	74	13	13	%REC	SW-846 8270
51-28-5	2,4-Dinitrophenol	34	78	13	13	%REC	SW-846 8270
121-14-2	2,4-Dinitrotoluene	51	77	13	13	%REC	SW-846 8270
606-20-2	2,6-Dinitrotoluene	51	76	13	13	%REC	SW-846 8270
78-93-3	2-Butanone	55 6	152 1	11	11	%REC	SW-846 8260
91-58-7	2-Chloronaphthalene	48	70	13	13	%REC	SW-846 8270
95-57-8	2-Chlorophenol	47	72	13	13	%REC	SW-846 8270
91-57-6	2-Methylnaphthalene	45	67	13	13	%REC	SW-846 8270
95-48-7	2-Methylphenol	46	73	13	13	%REC	SW-846 8270
88-74-4	2-Nitroaniline	53	72	13	13	%REC	SW-846 8270
91-94-1	3,3'-Dichlorobenzidine	40	101	13	13	%REC	SW-846 8270
534-52-1	4,6-Dinitro-2-methylphenol	36	74	13	13	%REC	SW-846 8270
106-47-8	4-Chloroaniline	32	52	13	13	%REC	SW-846 8270
108-10-1	4-Methyl-2-pentanone	65 21	97 84	11	11	%REC	SW-846 8260
106-44-5	4-Methylphenol	48	73	13	13	%REC	SW-846 8270
100-02-7	4-Nitrophenol	46	91	13	13	%REC	SW-846 8270
83-32-9	Acenaphthene	49	70	13	13	%REC	SW-846 8270
67-64-1	Acetone	36 11	159 3	11	11	%REC	SW-846 8260
7429-90-5	Aluminum	92	3730	13	13	%REC	SW-846 6010
120-12-7	Anthracene	52	71	13	13	%REC	SW-846 8270
7440-36-0	Antimony	33	101	13	13	%REC	SW-846 6010
12674-11-2	Aroclor-1016	66	116	10	10	%REC	SW-846 8082
11096-82-5	Aroclor-1260	59	111	10	10	%REC	SW-846 8082
7440-38-2	Arsenic	88	103	13	13	%REC	SW-846 6010
7440-39-3	Barium	95	107	13	13	%REC	SW-846 6010
71-43-2	Benzene	69 21	93 44	11	11	%REC	SW-846 8260
71-43-2	Benzene	90	102	7	7	%REC	SW-846 8260 LOW LEVEL
56-55-3	Benzo(a)anthracene	48	73	13	13	%REC	SW-846 8270
50-32-8	Benzo(a)pyrene	49	73	13	13	%REC	SW-846 8270
205-99-2	Benzo(b)fluoranthene	45	78	13	13	%REC	SW-846 8270
207-08-9	Benzo(k)fluoranthene	49	76	13	13	%REC	SW-846 8270
65-85-0	Benzoic Acid	1 7	62	13	13	%REC	SW-846 8270
100-51-6	Benzyl Alcohol	48	76	13	13	%REC	SW-846 8270
7440-41-7	Beryllium	89	122	13	13	%REC	SW-846 6010
111-44-4	bis(2-Chloroethyl)ether	40	123	13	13	%REC	SW-846 8270
39638-32-9	bis(2-Chloroisopropyl)ether	45	76	13	13	%REC	SW-846 8270
117-81-7	bis(2-Ethylhexyl)phthalate	50	74	13	13	%REC	SW-846 8270
75-27-4	Bromodichloromethane	66 89	105	11	11	%REC	SW-846 8260
75-25-2	Bromoform	61 18	104 5	11	11	%REC	SW-846 8260
74-83-9	Bromomethane	59 57	179 7	11	11	%REC	SW-846 8260
85-68-7	Butylbenzylphthalate	50	72	13	13	%REC	SW-846 8270

CAS No.	Analyte	Minimum	Maximum	Number of Laboratory Samples	Number of Laboratory Batches	Unit	Test Method
117-81-7	bis(2-Ethylhexyl)phthalate	50	74	13	13	%REC	SW-846 8270
7440-43-9	Cadmium	87	107	11	13	%REC	SW-846 6010
75-15-0	Carbon Disulfide	35 21	49 52	10	2	%REC	SW8260B
56-23-5	Carbon Tetrachloride	54 5	57 47	2	2	%REC	SW8260B
108-90-7	Chlorobenzene	52 44	103 6	11	11	%REC	SW-846 8260
108-90-7	Chlorobenzene	46 85	67 6	2	2	%REC	SW8260B
75-00-3	Chloroethane	41 6	90 95	2	2	%REC	SW8260B
67-66-3	Chloroform	62 66	102	11	11	%REC	SW-846 8260
67-66-3	Chloroform	55 4	61 98	2	2	%REC	SW8260B
74-87-3	Chloromethane	35 7	129 4	2	2	%REC	SW8260B
7440-47-3	Chromium	93	124	13	13	%REC	SW-846 6010
218-01-9	Chrysene	47	71	13	13	%REC	SW-846 8270
10061-01-5	cis-1,3-Dichloropropene	74 38	125 8	11	11	%REC	SW-846 8260
7440-48-4	Cobalt	86	105	13	13	%REC	SW-846 6010
7440-50-8	Copper	97	108	13	13	%REC	SW-846 6010
53-70-3	Dibenz(a,h)anthracene	44	71	13	13	%REC	SW-846 8270
132-64-9	Dibenzofuran	50	68	13	13	%REC	SW-846 8270
124-48-1	Dibromochloromethane	68 56	102	11	11	%REC	SW-846 8260
84-66-2	Diethylphthalate	52	75	13	13	%REC	SW-846 8270
131-11-3	Dimethylphthalate	51	72	13	13	%REC	SW-846 8270
84-74-2	Di-n-butylphthalate	52	74	13	13	%REC	SW-846 8270
117-84-0	Di-n-octylphthalate	51	71	13	13	%REC	SW-846 8270
100-41-4	Ethylbenzene	53 36	100 7	11	11	%REC	SW-846 8260
206-44-0	Fluoranthene	49	87	13	13	%REC	SW-846 8270
86-73-7	Fluorene	49	70	13	13	%REC	SW-846 8270
118-74-1	Hexachlorobenzene	49	74	13	13	%REC	SW-846 8270
87-68-3	Hexachlorobutadiene	49 52	82 93	11	11	%REC	SW-846 8260
87-68-3	Hexachlorobutadiene	43	68	13	13	%REC	SW-846 8270
77-47-4	Hexachlorocyclopentadiene	4 8	63	13	13	%REC	SW-846 8270
67-72-1	Hexachloroethane	44	71	13	13	%REC	SW-846 8270
193-39-5	Indeno(1,2,3-cd)pyrene	44	72	13	13	%REC	SW-846 8270
7439-89-6	Iron	0	2270	13	13	%REC	SW-846 6010
78-59-1	Isophorone	61	96	13	13	%REC	SW-846 8270
7439-92-1	Lead	89	106	13	13	%REC	SW-846 6010
7439-93-2	Lithium	89	109	13	13	%REC	SW-846 6010
7439-96-5	Manganese	0	123	13	13	%REC	SW-846 6010
7439-97-6	Mercury	22	104	12	12	%REC	SW-846 6010
75-09-2	Methylene chloride	71 69	110 3	11	11	%REC	SW-846 8260
7439-98-7	Molybdenum	79	102	13	13	%REC	SW-846 6010
91-20-3	Naphthalene	0	86 28	11	11	%REC	SW-846 8260
91-20-3	Naphthalene	45	69	13	13	%REC	SW-846 8270

CAS No.	Analyte	Minimum	Maximum	Number of Laboratory Samples	Number of Laboratory Batches	Unit	Test Method
7440-02-0	Nickel	88	107	13	13	%REC	SW-846 6010
14797-55-8	Nitrate	91	102	2	2	%REC	SW9056 OR E300 0
14797-55-8	Nitrate	87	97	4	4	%REC	SW9056 OR E300 0 PREP E300 0
98-95-3	Nitrobenzene	50	77	13	13	%REC	SW-846 8270
86-30-6	n-Nitrosodiphenylamine	56	85	13	13	%REC	SW-846 8270
621-64-7	n-Nitrosodipropylamine	44	74	13	13	%REC	SW-846 8270
87-86-5	Pentachlorophenol	17	63	13	13	%REC	SW-846 8270
108-95-2	Phenol	49	76	13	13	%REC	SW-846 8270
129-00-0	Pyrene	44	83	13	13	%REC	SW-846 8270
7782-49-2	Selenium	86	100	13	13	%REC	SW-846 6010
7440-22-4	Silver	86	165	13	13	%REC	SW-846 6010
7440-24-6	Strontium	90	105	13	13	%REC	SW-846 6010
100-42-5	Styrene	55 98	102	11	11	%REC	SW-846 8260
127-18-4	Tetrachloroethene	60 17	92 21	11	11	%REC	SW-846 8260
7440-31-5	Tin	82	101	13	13	%REC	SW-846 6010
108-88-3	Toluene	63 59	91 78	11	11	%REC	SW-846 8260
108-88-3	Toluene	90	120	7	7	%REC	SW-846 8260 LOW LEVEL
10061-02-6	trans-1,3-Dichloropropene	65 02	95	11	11	%REC	SW-846 8260
79-01-6	Trichloroethene	65 84	122 4	11	11	%REC	SW-846 8260
79-01-6	Trichloroethene	82	113	7	7	%REC	SW-846 8260 LOW LEVEL
11-09-7	Uranium, Total	87	102	13	13	%REC	SW-846 6010
7440-62-2	Vanadium	77	117	13	13	%REC	SW-846 6010
75-01-4	Vinyl chloride	44 8	119 3	11	11	%REC	SW-846 8260
1330-20-7	Xylene	57 92	103	11	11	%REC	SW-846 8260
7440-66-6	Zinc	75	101	13	13	%REC	SW-846 6010

8 2.2 Precision

Matrix Spike Duplicate Evaluation

Laboratory precision is measured through use of MSD Adequate frequency of MSD measurements is indicated by at least one MSD in each laboratory batch Table 22 indicates that MSD frequencies were adequate While some of the recoveries appear to be low, they would not result in rejection of data that affects the project decision

Table 22
Sample Matrix Spike Duplicate Evaluation

Analyte	Number of Sample Pairs	Number of Laboratory Batches	Max RPD (%)
1,1,1-Trichloroethane	11	11	23 94

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Analyte	Number of Sample Pairs	Number of Laboratory Batches	Max RPD (%)
1,1,2,2-Tetrachloroethane	11	11	37 23
1,1,2-Trichloroethane	11	11	24 21
1,1-Dichloroethane	11	11	24 17
1,1-Dichloroethene	11	11	23 85
1,1-Dichloroethene	7	7	10 53
1,2,4-Trichlorobenzene	11	11	35 68
1,2,4-Trichlorobenzene	13	13	34 34
1,2-Dichlorobenzene	11	11	42 69
1,2-Dichloroethane	11	11	22 50
1,2-Dichloropropane	11	11	25 88
1,4-Dichlorobenzene	11	11	44 07
2,4,5-Trichlorophenol	13	13	40 82
2,4,6-Trichlorophenol	13	13	35 29
2,4-Dichlorophenol	13	13	46 46
2,4-Dimethylphenol	13	13	40 00
2,4-Dinitrophenol	13	13	66 67
2,4-Dinitrotoluene	13	13	41 27
2,6-Dinitrotoluene	13	13	41 94
2-Butanone	11	11	19 83
2-Chloronaphthalene	13	13	30 93
1,4-Dichlorobenzene	11	11	44 07
2-Chlorophenol	13	13	37 62
2-Methylnaphthalene	13	13	24 76
2-Methylphenol	13	13	36 73
2-Nitroaniline	13	13	29 06
3,3'-Dichlorobenzidine	13	13	35 56
4,6-Dinitro-2-methylphenol	13	13	50 85
4-Chloroaniline	13	13	44 16
4-Methyl-2-pentanone	11	11	24 71
4-Methylphenol	13	13	37 62
4-Nitrophenol	13	13	21 95
Acenaphthene	13	13	32 65
Acetone	11	11	44 55
Aluminum	13	13	107 08
Aluminum	3	3	1 92
Anthracene	13	13	33 66
Antimony	13	13	19 72
Antimony	2	2	1 50
Aroclor-1016	10	10	53 33
Aroclor-1260	10	10	26 09
Arsenic	13	13	2 25

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Analyte	Number of Sample Pairs	Number of Laboratory Batches	Max RPD (%)
Arsenic	2	2	1 49
Barium	3	3	16 90
Barium	13	13	9 78
Benzene	11	11	23 31
Benzene	7	7	6 36
Benzo(a)anthracene	13	13	46 51
Benzo(a)pyrene	13	13	36 36
Benzo(b)fluoranthene	13	13	27 27
Benzo(k)fluoranthene	13	13	53 66
Benzoic Acid	13	13	192 16
Arsenic	2	2	1 49
Benzyl Alcohol	13	13	34 62
Beryllium	13	13	26 98
Beryllium	2	2	2 78
bis(2-Chloroethyl)ether	13	13	35 29
bis(2-Chloroisopropyl)ether	13	13	35 05
bis(2-Ethylhexyl)phthalate	13	13	52 43
Bromodichloromethane	11	11	27 61
Bromoform	11	11	35 39
Bromomethane	11	11	48 72
Butylbenzylphthalate	13	13	44 00
Cadmium	13	13	5 92
Cadmium	2	2	1 93
Carbon Disulfide	11	11	23 79
Carbon Tetrachloride	11	11	21 94
Chlorobenzene	11	11	38 27
Chlorobenzene	7	7	10 53
Chloroethane	11	11	56 20
Chloroform	11	11	24 28
Chloroform	3	3	8 00
Chloromethane	11	11	45 50
Chromium	13	13	14 00
Chromium	3	3	2 88
Chrysene	13	13	37 50
cis-1,3-Dichloropropene	11	11	25 97
Cobalt	13	13	3 28
Cobalt	2	2	0 84
Copper	13	13	13 61
Copper	2	2	0 95
Dibenz(a,h)anthracene	13	13	40 00
Dibenzofuran	13	13	32 00

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Analyte	Number of Sample Pairs	Number of Laboratory Batches	Max RPD (%)
Dibromochloromethane	11	11	24 59
Diethylphthalate	13	13	37 84
Dimethylphthalate	13	13	39 25
Di-n-butylphthalate	13	13	39 29
Di-n-octylphthalate	13	13	54 55
Ethylbenzene	11	11	37 68
Fluoranthene	13	13	33 04
Fluorene	13	13	28 57
Hexachlorobenzene	13	13	26 67
Hexachlorobutadiene	13	13	38 30
Hexachlorocyclopentadiene	13	13	27 03
Hexachloroethane	13	13	35 05
Indeno(1,2,3-cd)pyrene	13	13	37 50
Iron	10	10	195 30
Iron	3	3	1 75
Isophorone	13	13	39 37
Lead	13	13	11 28
Lead	2	2	1 85
Lithium	2	2	6 10
Lithium	13	13	5 08
Manganese	12	12	107 14
Manganese	2	2	0 95
Mercury	12	12	58 06
Mercury	2	2	4 78
Methylene chloride	11	11	24 78
Molybdenum	13	13	3 43
Molybdenum	2	2	1 80
Naphthalene	11	11	35 07
Naphthalene	13	13	33 01
Nickel	13	13	7 25
Nickel	2	2	2 42
Nitrate	2	2	5 03
Nitrate	4	4	4 71
Nitrobenzene	13	13	35 29
n-Nitrosodiphenylamine	13	13	34 59
n-Nitrosodipropylamine	13	13	30 30
Pentachlorophenol	13	13	36 00
Phenol	13	13	37 62
Pyrene	13	13	37 97
Selenium	13	13	2 35
Selenium	2	2	2 29

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Analyte	Number of Sample Pairs	Number of Laboratory Batches	Max RPD (%)
Silver	12	12	3 17
Silver	2	2	1 14
Strontium	2	2	100 00
Strontium	13	13	12 87
Styrene	11	11	40 57
Tetrachloroethene	11	11	23 50
Tin	13	13	3 39
Tin	2	2	1 85
Toluene	11	11	24 91
Selenium	2	2	2 29
Toluene	7	7	7 41
trans-1,3-Dichloropropene	11	11	25 57
Trichloroethene	11	11	22 19
Trichloroethene	7	7	5 74
Uranium, Total	13	13	2 13
Uranium, Total	2	2	1 59
Vanadium	13	13	53 33
Vanadium	3	3	1 22
Vinyl chloride	11	11	42 84
Xylene	11	11	39 97
Zinc	13	13	26 97
Zinc	2	2	3 14

Field Duplicate Evaluation

Field duplicate results reflect sampling precision, or overall repeatability of the sampling process The frequency of field duplicate collection should exceed 1 field duplicate per 20 real samples, or 5 percent Table 23 indicates that sampling frequencies were adequate A common metric for evaluating precision is the relative percent difference (RPD) value, RPD values are given in Table 24 Ideally, RPDs of less than 35 percent (in soil) indicate satisfactory precision Values exceeding 35 percent only affect project decisions if the imprecision is great enough to cause contradictory decisions relative to the COC (i e , one sample indicates clean soil whereas the QC partner does not) Barium, copper and vanadium, which had very high RPDs did not affect project decisions because they were well below RFCA ALs As indicated by the data in Table 11, a number of analytes, generally VOCs and SVOCs, have RPDs greater than 35 percent Project decisions were based only on analytes that exceeded ALs (i e , arsenic) The RPD percentages greater than 35 percent indicate that the sampling precision has been exceeded The imprecision does not affect project decisions because the arsenic exceedance is considered real

Table 23
Field Duplicate Sample Frequency

Test Method	Sample Code	Number of Samples	% Duplicate Samples
ALPHA SPEC	REAL	24	4%
ALPHA SPEC	DUP	1	
AM_RC_G/L	REAL	2	
GAMMA SPECTROSCOPY	REAL	168	4%
GAMMA SPECTROSCOPY	DUP	7	
L-4215 SOLID	REAL	1	0%
PU_RC_G/L	REAL	2	0%
SW8260B	Real	2	0%
SW-846 6010	REAL	24	4%
SW-846 6010	DUP	1	
SW-846 6200	REAL	106	7%
SW-846 6200	DUP	7	
SW-846 8082	REAL	33	6%
SW-846 8082	DUP	2	
SW-846 8260	REAL	33	3%
SW-846 8260	DUP	1	
SW-846 8270	REAL	67	6%
SW-846 8270	DUP	4	
SW9056 OR E300 0 PREP E300 0	REAL	18	0%
U_RC_G/L	REAL	2	0%

Table 24
RPD Evaluation

Analyte	Max of RPD %
1,2,4-Trichlorobenzene	2 74
2,4,5-Trichlorophenol	2 74
2,4,6-Trichlorophenol	2 74
2,4-Dichlorophenol	2 74
2,4-Dimethylphenol	2 74
2,4-Dinitrophenol	2 90
2,4-Dinitrotoluene	2 74
2,6-Dinitrotoluene	2 74
2-Chloronaphthalene	1 44
2-Chlorophenol	2 74
2-Methylnaphthalene	2 74
2-Methylphenol	2 74
2-Nitroaniline	2 90
3,3'-Dichlorobenzidine	0 00
4,6-Dinitro-2-methylphenol	2 90

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Analyte	Max of RPD %
4-Chloroaniline	0 00
4-Methylphenol	2 74
4-Nitrophenol	2 90
Acenaphthene	2 47
Aluminum	0 00
Americium-241	11 26
Anthracene	3 77
Aroclor-1221	5 00
Aroclor-1232	5 00
Aroclor-1242	5 00
Aroclor-1254	28 57
Aroclor-1260	5 00
Arsenic	8 82
Barium	131 43
Benzo(a)anthracene	7 84
Benzo(a)pyrene	7 27
Benzo(b)fluoranthene	12 50
Benzo(k)fluoranthene	6 06
Benzoic Acid	2 90
Benzyl Alcohol	0 00
Beryllium	56 41
bis(2-Chloroethyl)ether	2 74
bis(2-Chloroisopropyl)ether	2 74
bis(2-Ethylhexyl)phthalate	2 74
Butylbenzylphthalate	2 74
Cadmium	27 49
Chromium	9 09
Chrysene	44 44
Cobalt	20 18
Copper	132 52
Dibenz(a,h)anthracene	46 15
Dibenzofuran	2 99
Diethylphthalate	2 74
Dimethylphthalate	2 74
Di-n-butylphthalate	2 74
Di-n-octylphthalate	2 74
Fluoranthene	30 43
Fluorene	1 23
Hexachlorobenzene	2 74
Hexachlorobutadiene	2 74
Hexachlorocyclopentadiene	2 74
Hexachloroethane	2 74
Indeno(1,2,3-cd)pyrene	2 82
Iron	51 20
Isophorone	2 74
Lead	5 41
Lithium	0 00

Analyte	Max of RPD %
Manganese	15 38
Mercury	42 76
Naphthalene	1 23
Nickel	28 57
Nitrobenzene	2 74
n-Nitrosodiphenylamine	2 74
n-Nitrosodipropylamine	2 74
Pentachlorophenol	2 90
Lead	5 41
Phenol	2 74
Plutonium-239/240	39 72
Pyrene	48 10
Silver	25 00
Strontium	58 12
Tin	5 56
Uranium-234	6 68
Uranium-234	6 68
Uranium-234	6 68
Uranium-238	19 83
Vanadium	120 74
Zinc	40 98

Completeness

Based on original project DQOs, a minimum of 25 percent of ER Program analytical (and radiological) results must be formally verified and validated Of that percentage, no more than 10 percent of the results may be rejected, which ensures that analytical laboratory practices are consistent with quality requirements Table 25 shows the number and percentage of validated records (codes without "1"), the number and percentage of verified records (codes with "1"), and the percentage of rejected records for each analyte group Radionuclide validation is listed as 12 percent, however, all alpha spectroscopy results were validated Because the frequency of validation is within project quality requirements and in compliance with the RFETS validation goal of 25 percent of all analytical records the results indicate that these data are adequate

8.2.3 Sensitivity

Reporting limits, in units of ug/kg for organics, mg/kg for metals, and pCi/g for radionuclides, were compared with proposed RFCA WRW and Ecological Receptor ALs Adequate sensitivities of analytical methods were attained for all COCs that affect project decisions expect those listed in Table 26 "Adequate" sensitivity is defined as a reporting limit less than an analyte's associated AL, typically less than one-half the AL

8.3 Summary of Data Quality

The RPDs greater than 35 percent indicate that the sampling precision limits some analytes has been exceeded However, the imprecision does not affect project decisions because the only AL exceedances is arsenic The arsenic RPD was less than 35 percent,

and does not affect project decisions No records were rejected Compliance with the project quality requirements and RFETS validation goal of 25percent of all analytical records indicates that these data are adequate If additional V&V information is received, IHSS Group 700-4 records will be updated in the Soil Water Database Data qualified as a result of additional data will be assessed as part of the Comprehensive Risk Assessment process Data collected and used for IHSS Group 700-4 is adequate for decision-making

Table 25
Validation and Verification Summary

Validation Qualifier Code	Total of CAS Number	Alpha Spec	Gamma Spectroscopy	SW-846 6010	SW-846 6200	SW-846 8082	SW-846 8260	SW-846 8260B	SW-846 8270	SW9056 OR E300_0 Prep E300_0
No V&V	254	5	105	0	0	0	72	72	0	0
1	397	0	395	0	0	0	0	0	0	2
J	139	0	0	88	40	1	1	0	9	0
J1	120	0	0	27	83	0	6	0	0	4
R	1	0	0	1	0	0	0	0	0	0
V	2310	105	98	328	563	111	240	0	865	0
V1	4948	10	389	78	1157	112	777	0	2425	0
JB	7	0	0	0	0	0	6	0	1	0
JB1	22	0	0	0	0	0	22	0	0	0
UJ	234	0	0	20	45	0	5	0	163	1
UJ1	73	0	0	10	20	7	23	0	2	11
Total	8505	120	987	552	1908	231	1152	72	3465	18
Validated	2691	105	98	437	648	112	252	0	1038	1
% Validated	31 64%	87 50%	9 93%	79 17%	33 96%	48 48%	21 88%	0 00%	29 96%	5 56%
Verified	5560	10	784	115	1260	119	828	0	2427	17
% Verified	65 37%	8 33%	79 43%	20 83%	66 04%	51 52%	71 88%	0 00%	70 04%	94 44%
% Rejected	0 01%	0 00%	0 00%	0 18%	0 00%	0 00%	0 00%	0 00%	0 00%	0 00%

KEY
1, V1 – Verified
J, J1 – Estimated
B – In blank
UJ, UJ1 - Estimated detection limit
V – Validated
R – Rejected

Table 26
Sensitivity Summary

Location Code	Test Method Name	Analyte	Detection Limit	Result	Result Units	Validation Qualifier	Wildlife Refuge Worker AL	Sensitive
CH48-025	GAMMA SPECTROSCOPY	Plutonium-240	3181	3181	pCi/g	U	50	Yes
CH48-025	GAMMA SPECTROSCOPY	Plutonium-239/240	1565	1317	pCi/g	U	50	Yes
CD48-000	GAMMA SPECTROSCOPY	Uranium-235	8 23	0 066	pCi/g	U	8	Yes
CH48-005	GAMMA SPECTROSCOPY	Uranium-235	9 81	0 023	pCi/g	U	8	Yes

9.0 REFERENCES

DOE, 1996, Completion Report for the Underground Storage Tanks Source Removal Project, Rocky Flats Environmental Technology Site, Golden, Colorado, September

DOE, 1992-2002, Historical Release Reports for the Rocky Flats Plant, Golden, Colorado, June

DOE, 2001a, Industrial Area Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June

DOE, 2001b, Building 771 Phase 1 Under Building Contamination Characterization Sampling Report, Rocky Flats Environmental Technology Site, Golden, Colorado, September

DOE, 2002, Industrial Area Sampling and Analysis Plan Addendum #IA-03-01, Rocky Flats Environmental Technology Site, Golden, Colorado, December

DOE, 2003a, Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation, Modification 1, Rocky Flats Environmental Technology Site, Golden, Colorado, September

DOE, 2003b, 771 Closure Project Decommissioning Operation Plan, Modification 5, Rocky Flats Environmental Technology Site, Golden, Colorado, August

DOE, CDPHE, and EPA, 2003, Modifications to the Rocky Flats Cleanup Agreement Attachment, U S Department of Energy, Colorado Department of Public Health and Environment, and U S Environmental Protection Agency, Rocky Flats Environmental Technology Site, Golden, Colorado, June

Roberts, Sarah, 2003, Personal Communication, November

APPENDIX A

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time	November 15, 2002/1700
Site Contact(s) **Phone**	Marla Broussard 303-966-6007
Regulatory Contacts **Phones**	Dave Kruchek 303-692-3328
Agency	Colorado Department of Public Health and Environment

Purpose of Contact: IASAP Addendum #IA-03-01 Comment Resolution

Discussion

The following changes will be made by RFETS to IHSS Group 700-4, Section 4 0 of IASAP Addendum #IA-03-01

(1) The sump in Building 771, Room 142 will be located on Figure 9 All other sumps/sinks will be relocated in the field
(2) VOCs will be added to the analyte list for deep sumps only
(3) Samples will be collected from the 0 0-0 5, 0 5 – 2 5 and 2 5 – 4 5 interval at the following locations CF48-012, CF48-002, CF48 –001, and CF48-011

Additionally, as discussed, the following text will be added to Section 1 2 "Statistical confidence in UBC and under pad characterization sample sets at >90% will be maintained with the currently suggested grid-spacing of 72 feet Use of the appropriate statistical models, such as EPA QA/G-4, lognormal, or nonparametric methods (e g , the MARSSIM, EPA et al , 1997), will corroborate, with better than 90% confidence, that enough samples were acquired to draw final project conclusions "

Contact Record Prepared By Susan Serreze

Required Distribution		Additional Distribution (choose names as applicable)
S Bell, RFFO	D Mayo, K-H RISS	M Broussard, K-H RISS
L Brooks, K-H ESS	J Mead, K-H ESS	G Kleeman, USEPA
L Butler, K-H RISS	S Nesta, K-H RISS	D Kruchek, CDPHE
C Deck, K-H Legal	K North, K-H ESS	L Norland, K-H RISS
R DiSalvo, RFFO	T Rehder, USEPA	A Primrose, K-H RISS
S Gunderson, CDPHE	D Shelton, K-H	S Serreze, K-H RISS
J Legare, RFFO	C Spreng, CDPHE	D Strand, K-H RISS

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time November 4, 2003/ 11 00 am

Site Contact(s) Hanna Marschall, Annette Primrose
Phone. (303) 966-4916, (303) 966-4385

Regulatory Contact David Kruchek, Denise Onyskiw
Phone: (303) 692-3328 (303) 966-6687

Agency CDPHE

Purpose of Contact· Location of additional soil samples at Building 774

Discussion
As discussed with and agreed to by David Kruchek and Denise Onyskiw, confirmation samples will be collected after the contaminated soil is removed as follows
(1) from the soils directly underlying former tank T-66,
(2) from the soils directly underlying or the former tank T-67,
(3) & (4) will be located where elevated FIDLER readings are present after remediation,

The confirmation samples will be analyzed by Alpha Spectroscopy for rads, metals (Be included), SVOCs and VOCs If the confirmation sampling results exceed the action level, there will be additional remediation and confirmation samples required

Additional characterization samples will be collected along the west wall of B774 where there are higher FIDLER readings and another will be located in a part of the excavated area where there are not elevated FIDLER readings after remediation

The area east of the excavated area in the location of the former cargo container will be checked with a FIDLER for potential contamination

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Contact Record Prepared By. Hanna Z Marschall

Required Distribution

S Bell, RFFO
L Brooks, K-H ESS
L Butler, K-H RISS
C Deck, K-H Legal
R DiSalvo, RFFO
S Gunderson, CDPHE
J Legare, RFFO
D Kruchek, CDPHE
D Mayo, K-H RISS
J Mead, K-H ESS
S Nesta, K-H RISS
K North, K-H ESS
T Rehder, USEPA
D Shelton, K-H
C Spreng, CDPHE
R Tyler, RFFO

Additional Distribution
(choose names as applicable)

M Broussard, K-H RISS
C Freiboth, K-H RISS
G Kleeman, USEPA
S Serreze, K-H RISS
L Norland, K-H RISS
A Primrose, K-H RISS
D Onyskiw, CDPHE
D Foss, K-H RISS
G Kelly, K-H RISS
H Marschall, K-H RISS

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time: September 11, 2003/ 11 05am

Site Contact(s) Mark A Ruthven
Phone 303-966-2955

Regulatory Contact Dave Kruchek
Phone 303-692-3328

Agency CDPHE

Purpose of Contact: Samples to be taken under T-14 and T-16 in IHSS Group 700-4

Discussion
Confirmed during a phone conversation, three additional grab samples will be taken at the former location of Tanks T-14 and T-16 outside Building 774 Radionuclides, metals, VOCs, and SVOCs will be analyzed If evidence of a spill is present, samples may be relocated to sample the suspect areas

Contact Record Prepared By Mark A Ruthven

Required Distribution

S Bell, RFFO
J Berardini, K-H
L Brooks, K-H ESS
M Broussard, K-H RISS
L Butler, K-H RISS
G Carnival, K-H RISS
N Castaneda, RFFO
C Deck, K-H Legal
R DiSalvo, RFFO
S Gunderson, CDPHE
M Keating, K-H RISS
G Kleeman, USEPA
D Kruchek, CDPHE
D Mayo, K-H RISS
R McCalister, DOE
J Mead, K-H ESS
S Nesta, K-H RISS
L Norland, K-H RISS
K North, K-H ESS
E Pottorff, CDPHE
A Primrose, K-H RISS
T Rehder, USEPA
S Serreze, RISS
D Shelton, K-H
C Spreng, CDPHE
S Surovchak, RFFO
K Wiemelt, K-H RISS
C Zahm, K-H

Additional Distribution
(choose names as applicable)

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ER REGULATORY CONTACT RECORD

Date/Time	October 28, 2003/ 7 15 am
Site Contact(s)	Annette Primrose
Phone	303 966-4385
Regulatory Contact	David Kruchek
Phone	303 692-3328
Agency	CDPHE

Purpose of Contact Accelerated notification of remedial action at IHSS group 700-4

Discussion

Process waste tanks 66, 67 and 68 on the east side of Building 774 were recently removed as part of building decommissioning activities The area was roughly regraded after tank removal to leave the area in a safer configuration and approximately two feet of previously excavated soil was replaced over the subtank soils

Samples were collected from the soils directly underlying the tanks with the following results

- Tank 68 – Americium activity was not detected
- Tank 67 – Americium activity was 782 pCi/g in subtank soils Americium activity in the overlying fill material was 8 47 pCi/g
- Tank 66 – Americium activity was 6 1 nCi/g in the subtank soils Americium activity in the overlying fill material was 6 15 pCi/g

At final grade, the area will be 8 to 12 feet below grade However, as stated in RFCA Attachment 5, once an excavation is started, the principal of ALARA will be applied by removing all soil contamination to less than 1 nCi/g Therefore, a remedial action is planned for the Tank 66 and part of the Tank 67 area, including the higher activity areas noted during the radiological survey of the area The excavation is currently open and an immediate approach is required for this area

For this action, sufficient contaminated soil will be removed and dispositioned as waste to ensure that the remaining soils are below the action level of 1 nCi/g Confirmation samples will be collected to verify that the action level of 1 nCi/g was met

The extent of the remedial action will be documented in a closeout report for IHSS Group 700-4

Contact Record Prepared By Annette Primrose

Required Distribution

S Bell, RFFO
J Berardini, K-H
L Brooks, K-H ESS
M Broussard, K-H RISS
L Butler, K-H RISS
G Carnival, K-H RISS
N Castaneda, RFFO
C Deck, K-H Legal
R DiSalvo, RFFO
S Gunderson, CDPHE
M Keating, K-H RISS
G Kleeman, USEPA
D Kruchek, CDPHE
D Mayo, K-H RISS
R McCalister, DOE
J Mead, K-H ESS
S Nesta, K-H RISS
L Norland, K-H RISS
K North, K-H ESS
E Pottorff, CDPHE
A Primrose, K-H RISS
T Rehder, USEPA
S Serreze, RISS
D Shelton, K-H
C Spreng, CDPHE
S Surovchak, RFFO
K Wiemelt, K-H RISS
C Zahm, K-H

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ENVIRONMENTAL RESTORATION
REGULATORY CONTACT RECORD

Date/Time: October 16, 2003

Site Contact(s): Susan Serreze
Phone: 303-966-2677

Regulatory Contact: Elizabeth Pottorff, Dave Kruchek, Harlen Ainscough
Phone: 303-692-3300

Agency: CDPHE

Purpose of Contact: Consultative Process Meeting– Meeting Notes

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Discussion

October, 16 2003 Comment Resolution Meetings
For

IHSS 149.2 Boundary Change
IHSS 169 and 132 HRR Issues
IHSS Group 000-2 ER RSOP Notification
IHSS Group 400-3 Field Completion
IHSS Group 700-7 IASAP Addendum and ER RSOP Notification
IHSSs 150.6 and 150.8 NFAA
IHSS Group 700-5 IASAP Addendum and ER RSOP Notification
IHSS Group 700-6 IASAP Addendum and ER RSOP Notification
IHSS Group 700-4 Update

A meeting was held on October 16, 2003 to discuss several topics including IHSS Group 700-7 IASAP Addendum and Notification, IHSS Group 800-1 Notification, IHSS Group NE/NW Data Summary Report, IHSS Group 900-11, IHSS SW-1602 Notification, ER RSOP Modification and IHSS Group 000-2

I Attendees

CDPHE Dave Kruchek, Carl Spreng
DOE Norma Castaneda
K-H Marcella Broussard,
K-H Team Mark Ruthven, Susan Serreze

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II Report Status

Upcoming reports include the IHSS Group 100-1 IASAP Addendum, IHSS Group 400-2 IASAP Addendum and ER RSOP Notification, IHSS Group 600-3 IASAP Addendum and ER RSOP Notification, and IHSS Group 900-12 BZSAP Addendum

III Issues

No sitewide issues were discussed

IV Specific Comments

IHSS 149.2 Boundary Change

The following resolutions were agreed to

1 IHSS 149 2 will be addressed as part of IHSS Group 700-7

2 The IHSS 149 2 boundary will be shifted south to cover OPWL Lines P-36, 37, and 38

IHSS 169 HRR Administration

The following resolutions were agreed to

1 IHSS 169 will be re-proposed as an NFAA

IHSS 132 HRR Administration

The following resolutions were agreed to

1 IHSS 132 will be addressed as part of 700-3 Sampling locations will be documented through a contact record when fieldwork starts

2 If the tanks are not removed, samples will be collected from around the tanks

IHSS Group 000-2 Notification

CDPHE comments on the IHSS Group 000-2 Notification were discussed and the following resolutions were agreed to

1 Tank 39 and the associated line shown on the maps will be changed to indicate that this line is not an OPWL

2 The TBD designation at Buildings 707 and 883 will be removed from the maps

3 OPWLs that are found not to exist will be hatched on the maps

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4 Specific OPWL removals will be discussed with the LRA and documented through contact records

IHSS Group 400-3 Field Completion

Characterization data from IHSS Group 400-3 was presented Lead concentrations are greater than WRW ALs at one location in the northern part of Building 444 and manganese concentrations are greater than WRW ALs at one location west of Building 444 Lead, arsenic, and beryllium exceed ecological receptor ALs at several locations CDPHE requested that RFETS staff either further evaluate or excavate the WRW AL exceedances

IHSS Group 700-7 IASAP Addendum and ER RSOP Notification

1 The IHSS Group 700-7 IASAP Addendum and ER RSOP Notification were delivered to CDPHE for verification and approval

IHSSs 150.6 and 150.8 NFAAs

The revised NFAA proposal for IHSSs 150 6 and 150 8 was delivered to CDPHE for approval

IHSS Group 700-5 IASAP Addendum and ER RSOP Notification

The IHSS Group 700-5 IASAP Addendum and ER RSOP Notification were delivered to the regulatory agencies for verification and approval

The following resolutions were agreed to

1 Samples from the eight locations around the building will be sent to an offsite laboratory so that Be will be measured

IHSS Group 700-6 IASAP Addendum and ER RSOP Notification
The draft IHSS Group 700-6 IASAP Addendum and ER RSOP Notification were delivered to the regulatory agencies for review

IHSS Group 700-4 Update

The CERCLA tanks were removed and confirmation samples were collected

IV Meetings

The next meeting is scheduled for Wednesday, October 29, 2003, from 11 00 AM to 1 00 PM

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ENVIRONMENTAL RESTORATION
REGULATORY CONTACT RECORD

Date/Time: June 12, 2003

Site Contact(s): Susan Serreze
Phone: 303-966-2677

Regulatory Contact: Elizabeth Pottorff, Dave Kruchek, Harlen Amscough, Carl Spreng
Phone: 303-692-3300

Agency: CDPHE

Purpose of Contact: Consultative Process Meeting– Meeting Notes

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Discussion

June 11 and 12, 2003 Comment Resolution Meetings
For
IHSS Group 700-4 Field Completion
IHSS Group 600-1 Closeout Report
IHSS Group 300-2 Draft IASAP Addendum
IHSS Group 000-1 Closeout Report

Meetings were held on June 11 and 12, 2003 to discuss several topics including the IHSS Group 600-1 Closeout, IHSS Group 300-2 Draft IASAP Addendum, and IHSS Group 700-4 Field Completion

I Attendees

CDPHE Dave Kruchek, Elizabeth Pottorff, Harlen Amscough, Carl Spreng
DOE Russ McCallister
K-H Marcella Broussard
K-H Team Gerry Kelly, Susan Serreze

II Report Status

Upcoming documents were briefly discussed and included upcoming Addenda for IHSS Group 400-6, 600-4, OPWL, Closeouts and Data Summaries for 700-4, 900-3, and NE/NW, and field completion concurrence for 300-3, and 300-4

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III Issues

There were no program-wide issues

IV Specific Comments

IHSS Group 700-4 Field Completion

1 Based on the UBC 774 alpha spectroscopy data and the lack of an effective pathway for the movement of plutonium through the subsurface there is not an exceedance that would result in an ER action

2 The preliminary data maps were updated to show OPWL, tanks, other features, and all sampling locations and presented to CDPHE

3 Alpha spectroscopy data for UBC 774 was presented The americium/plutonium ratio is different than the 1 8 08 ratio used to estimate plutonium activity from HPGe results

4 At IHSS 163 1 benzo(a)pyrene was elevated, but not greater than WRW ALs These elevated concentrations will not result in an action

5 At IHSS 150 1 arsenic concentrations appear to decrease away from the building Elevated concentrations will not result in an action

IHSS Group 600-1 Closeout Report

The following resolutions were agreed to

1 Add a statement regarding how validation of other records affects IHSS Group 600-1 data quality

IHSS Group 300-2 IASAP Addendum

The following resolutions were agreed to

1 Additional biased samples in response to CDPHE comments were added to the sampling plan

2 H Ainscough will meet with D Reeder to look at specific B331 features

HSS Group 000-1 Closeout Report

1 The reason why hot spots were removed at the SEP will be added to the text

IV Meetings

The next meeting is scheduled for Thursday, June 26, 2003, from 10 30 AM to 12 00 PM

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Distribution:

H Ainscough, CDPHE
S Gunderson, CDPHE
D Kruchek, CDPHE
E Pottorff, CDPHE
C Spreng, CDPHE
G Kleeman, USEPA
N Castenada, RFFO
R McCallister, RFFO

L Brooks, K-H ESS
M Broussard, K-H RISS
L Butler, K-H RISS
R Davis, K-H RISS
C Deck, K-H Legal
D Mayo, K-H RISS
J Mead, K-H ESS
S Nesta, K-H RISS
L Norland, K-H RISS
K North, K-H ESS
A Primrose, K-H RISS
D Shelton, K-H
K Wiemelt, K-H RISS

W Chromec, K-H Team
K Griggs, K-H Team
G Kelly, K-H Team
B Koehler, K-H Team
S Luker, K-H Team
G Pudlick, K-H Team
D Reeder, K-H Team
M Ruthven, K-H Team
S Serreze, K-H Team
E Woodland, K-H Team
Administrative Record
ER Meeting Minutes

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Serreze, Susan

From David Kruchek
Sent Friday, June 06, 2003 10 00 AM
To McCallister, Russell, #ER Contact Records, Gilbreath, Chris, Woodland, Dan E , Radtke, David J , Strand, David, Foss, Dyan, Griggs, Karen, Wiemelt, Karen, Davis, Robert W , Roberts, Sarah, Luker, Steve, Paris, Steve, Serreze, Susan, Spence, Tracey, harlen ainscough@state co us
Cc STEVE Gunderson, Steve Tarlton
Subject Re Regulatory Contact Record 700-4

A NFA or NFAA has not been agreed to by us

Based on the information provided at the meeting we agreed that it did not look like further actions were warranted for B771, but not necessarily for B774, where VOCs and Am/Pu had been identified We were also told that an additional sample was being collected next to the big Am detection As such, we wanted to be able to review this data, as well as the additional results of the sample being collected before making any decision regarding NFA or NFAA

As yet, we have not been provided results for any additional sampling that has been performed

>>> "Serreze, Susan" <Susan Serreze@rfets gov> 06/05/03 09 45AM >>>
Attached is a regulatory contact record for IHSS Group 700-4 <<RCR consultative process700-4 doc>>

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ENVIRONMENTAL RESTORATION
REGULATORY CONTACT RECORD

Date/Time: May 29, 2003

Site Contact(s): Norma Castaneda, Russ McCallister, Karen Wiemelt, Susan Serreze,
Phone: 303-966-4226, 303-966-9692, 303-966-9883, 303-966-2677

Regulatory Contact: Elizabeth Pottorff, Dave Kruchek, Harlen Ainscough
Phone: 303-692-3429, 303-692-3328, 303-692-3337

Agency: CDPHE

Purpose of Contact: Consultative Process Meeting IHSS Group 700-4

Discussion

A meeting was held on May 29, 2003, to discuss the IHSS Group 700-4 characterization data Based on the preliminary data presented, CDPHE agreed that an accelerated action at IHSS Group 700-4 is not warranted DOE will provide IHSS Group 700-4 preliminary data maps with building structures to CDPHE in PDF format

---

Distribution

H Ainscough, CDPHE
S Gunderson, CDPHE
D Kruchek, CDPHE
E Pottorff, CDPHE
C Spreng, CDPHE
T Rehder, USEPA
G Kleeman, USEPA
N Castenada, RFFO
R DiSalvo, RFFO
R McCallister, RFFO
S Surovchak, RFFO
R Tyler, RFFO

L Brooks, K-H ESS
M Broussard, K-H RISS
L Butler, K-H RISS
R Davis, K-H RISS
C Deck, K-H Legal
D Mayo, K-H RISS
J Mead, K-H ESS
S Nesta, K-H RISS
L Norland, K-H RISS
K North, K-H ESS
A Primrose, K-H RISS
D Shelton, K-H ESS
K Wielmelt, K-H RISS

K Griggs, K-H Team
G Kelly, K-H Team
S Luker, K-H Team
S Paris, K-H Team
D Radtke, K-H Team
S Serreze, K-H Team
D Strand, K-H Team
E Woodland, K-H Team
Administrative Record
ER Meeting Minutes

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ENVIRONMENTAL RESTORATION
REGULATORY CONTACT RECORD

Date/Time: May 29, 2003

Site Contact(s): Susan Serreze
Phone: 303-966-2677

Regulatory Contact: Elizabeth Pottorff, Dave Kruchek, Harlen Ainscough
Phone: 303-692-3300

Agency: CDPHE

Purpose of Contact: Consultative Process Meeting– Meeting Notes

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Discussion

May 29, 2003 Comment Resolution Meeting
For
IHSS Group 500-7 Data Summary Report
IHSS Group 800-2 Data Summary Report
IHSS Group 600-2 Closeout Report
IHSS Group 300-2 Draft IASAP Addendum
IHSS Group 400-3 Draft IASAP Addendum
IHSS Group 500-2 Draft IASAP Addendum
IHSS Group 700-4 Field Completion
IHSS Group 900-3 Field Completion

A meeting was held on May 29, 2003 to discuss several topics including the IHSS Group 500-7 Data Summary Report, IHSS Group 800-2 Data Summary Report, IHSS Group 300-2 Draft IASAP Addendum, IHSS Group 400-3 Draft IASAP Addendum, IHSS Group 500-2 Draft IASAP Addendum, Subsurface Soil Risk Screen, Data Quality Assessment, IHSS Group 700-4 Field Completion, and IHSS Group 900-3 Field Completion

I Attendees
CDPHE Dave Kruchek, Elizabeth Pottorff, Harlen Ainscough
DOE Norma Castaneda, Russ McCallister
K-H Karen Wiemelt
K-H Team Gerry Kelly, David Radtke, Susan Serreze

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II Report Status

Meeting minutes from the 5/15/03 meeting were handed out Upcoming documents were briefly discussed and included upcoming Addenda for IHSS Group 400-6, 600-4, OPWL, Closeouts and Data Summaries for 700-4 and 900-3, and field completion concurrence for 400-8, 300-3, and 300-4

III Issues

There were no program-wide issues

IV Specific Comments

IHSS Group 500-7 Data Summary Report

The following resolutions were agreed to

1 The laboratory control sample and matrix spike frequencies will be added to the DQA Additionally, the text will be modified to provide more data on analyte tolerances, where available Once these changes are finished, the document will be sent for final verification and approval

IHSS Group 800-2 Data Summary Report

The following resolutions were agreed to

1 The laboratory control sample and matrix spike frequencies will be added to the DQA Additionally, the text will be modified to provide more data on analyte tolerances, where available

2 Text will be added to the validation summary stating that when V&V is complete, the data will be updated in SWD and the resulting data will be evaluated as part of the CRA

3 E Pottorff concurred with using the hot spot methodology for the barium exceedance

4 Once these changes are finished, the document will be sent for final verification and approval

IHSS Group 600-2 Closeout Report

1 The revised DQA for IHSS Group 600-2 Closeout Report was provided to CDPHE The laboratory control sample and matrix spike frequencies will be added to the DQA Additionally, the text will be modified to provide more data on analyte tolerances, where available

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IHSS Group 500-2 IASAP Addendum

1 Changes to the draft IHSS Group 500-2 IASAP Addendum are acceptable DOE will ask CDPHE for an approval letter

IHSS Group 400-3 IASAP Addendum

1 Text will be added that states that most samples outside of the buildings will be collected as part of IASAP Addendum for 400-6

2 VOCs will be added to the sampling specifications at OPWL sampling locations

3 With these changes, the draft IHSS Group 400-3 IASAP Addendum is acceptable DOE will ask CDPHE for an approval letter

IHSS Group 300-2 IASAP Addendum

1 A building walkdown will be conducted to identify cracks in the concrete, floor drains, and other features of potential concern

2 Old building drawings will be reviewed to identify features of potential concern including drains

IHSS Group 900-3 Field Completion

1 There are several locations where concentrations are greater the ecological receptor AL

2 Based on the preliminary data, an accelerated action is not warranted

3 The data summary report will include that the "presumed native soil, contaminated in the 1960's was sampled"

4 RCRA activities will not be described, but the appropriate documents will be referred to

IHSS Group 700-4 Field Completion

1 Based on the preliminary data, an accelerated action is not warranted

2 The preliminary data maps will be updated to show OPWL, tanks, other features, and all sampling locations

3 Additional information on the difference between field HPGe and fixed laboratory measurements will be provided to CDPHE

4 Information from the original limited UBC sampling will be included in the data summary report

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IV Meetings

The next meeting is scheduled for Thursday, June 12, 2003, from 10 30 AM to 12 00 PM

Distribution:

H Amscough, CDPHE
S Gunderson, CDPHE
D Kruchek, CDPHE
E Pottorff, CDPHE
C Spreng, CDPHE
G Kleeman, USEPA
N Castaneda, RFFO
R McCallister, RFFO

L Brooks, K-H ESS
M Broussard, K-H RISS
L Butler, K-H RISS
R Davis, K-H RISS
C Deck, K-H Legal
D Mayo, K-H RISS
J Mead, K-H ESS
S Nesta, K-H RISS
L Norland, K-H RISS
K North, K-H ESS
A Primrose, K-H RISS
D Shelton, K-H
K Wiemelt, K-H RISS

W Chromec, K-H Team
K Griggs, K-H Team
G Kelly, K-H Team
B Koehler, K-H Team
S Luker, K-H Team
G Pudlick, K-H Team
D Reeder, K-H Team
M Ruthven, K-H Team
S Serreze, K-H Team
E Woodland, K-H Team
Administrative Record
ER Meeting Minutes

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ENVIRONMENTAL RESTORATION
REGULATORY CONTACT RECORD

Date/Time: May 15, 2003

Site Contact(s). Susan Serreze
Phone: 303-966-2677

Regulatory Contact: Carl Spreng, Elizabeth Pottorff, Dave Kruchek, Harlen Ainscough
Phone: 303-692-3300

Agency: CDPHE

Purpose of Contact: Consultative Process Meeting– Meeting Notes

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Discussion

May 15, 2003 Comment Resolution Meeting
for
IHSS Group 000-1 Closeout Report
IHSS Group 600-1 Closeout Report
IHSS Group 400-3 Draft IASAP Addendum
IHSS Group 500-2 Draft IASAP Addendum
Subsurface Soil Risk Screen

A meeting was held on May 15, 2003 to discuss several draft reports including the IHSS Group 000-1 Closeout Report, IHSS Group 600-1 Closeout Report, IHSS Group 400-3 Draft IASAP Addendum, IHSS Group 500-2 Draft IASAP Addendum, and the subsurface soil risk screen

I Attendees

CDPHE Dave Kruchek, Elizabeth Pottorff, Carl Spreng, Harlen Ainscough
DOE Norma Castaneda
K-H Team Gerry Kelly, Mark Ruthven, Susan Serreze

II Report Status

CDPHE was asked when comments on the Characterization Data Summary Report for IHSSs 165 and 176 would be ready Carl Spreng stated that he would send comments soon

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III Issues

In accordance with the proposed RFCA Modification, there are Closeout Reports and Data Summary Reports At the suggestion of CDPHE, reports that contain data but are not intended to support an accelerated action decision will be called "Characterization Data Summary Report"

CDPHE changes to the Subsurface Soil Risk Screen were discussed and the Subsurface Soil Risk Screen for IHSS Group 600-2 was modified

IV Specific Comments

IHSS Group 000-1 Closeout Report

The following resolutions were agreed to

1 The Executive Summary will be changed to clarify what activities were conducted in accordance with ER RSOP Notification #02-08

2 A comparison to proposed ALs will be added to the Executive Summary

3 "Duct" will be changed to "dust" in the second to last sentence of the 4th paragraph in the Executive Summary and the reference to air monitoring will be removed

4 Section 1 0 will clarify that the ponds themselves were not within the scope of this action

5 Results will be compared with the proposed ALs in Section 2 0 In addition, the text will state that exceedances of the Ecological Receptor will be investigated under the IA Ecological Risk Assessment process

6 Information on the depth of pipelines removed and the extent to which remaining lines were grouted will be provided, where available in Section 3 0 Analytical results of incidental water analyses will not be included Because water removed was combined in poly-tanks, results cannot be traced to specific sources In addition, results were not used to make remediation/NFAA decisions

7 Figure 4 and Table 4 will be reviewed and corrected, as appropriate to include all sampling locations

8 The title of Figure 5 will be corrected to indicate that the data are characterization results greater than background means plus two standard deviations or detection limits

9 A statement will be added to Section 4 0 stating that the hot spots were designated based on current RFCA Tier I and Tier II ALs Confirmation sampling results will not be compared to proposed WRW or ecological ALs in this section because the remediation was confirmed by comparison to Tier I and Tier II ALs This comparison is generally made in several other locations in this document in accordance with

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agreements A statement will be added indicating that further AL comparisons are in the "Residual Contamination" section Additionally, a statement indicating what analytes are greater than RFCA Tier II ALs, will be added

10 Section 5 0 will be revised to include reference to the RCRA Units and associated samples

11 Confirmation sampling was conducted where contaminated soils were removed and all confirmation sampling results were reported Other areas sampled (e g , underneath items removed) yielded characterization results, and these are reported in Table 4 and Figure 5 Waste characterization results are presented in Table 14 However, because similar wastes were combined in containers, results can not be traced to specific sources and were not used to make remediation/NFAA decisions No text changes are required

12 Information on the depth of remaining pipelines and their construction material will be provided in Section 6 2, where available Sections 3 and 9 discuss the disposal of water encountered during removal activities Because water removed was combined in poly-tanks, analytical results can not be traced to specific sources and were not used to make remediation/NFAA decisions Therefore, results were not reported

13 The analyte group responsible for SOR exceedances will be identified and discussed in Section 8 1 Analytical results will also be compared to the new ALs

14 The color of the insets will changed to blue and we will try to take out the crosses in Figures 12 through 15

15 Section 11 0 and the title clearly state that these samples are no longer representative No text changes are necessary

16 Section 13 1 will be changed, as appropriate, to reflect actual work performed under ER RSOP Notification #02-08 and related characterization results The DQA section is being modified using the newly agreed-to DQA model DERs will be included where the SWD data permits

IHSS Group 600-1 Closeout Report

1 Comparison of results to proposed WRW and ecological ALs was added in the executive summary

2 Request for NFAA concurrence was added to Section 1

3 Information on the disposition of concrete from B663 will be added, if available, to Section 2 3 2 Only asphalt associated with concrete removal was removed Asphalt remains at the southeastern corner of the site A map showing removed features is being developed

4 The text in Section 2 4 was changed to reference Figure 6

5 Table 8 will be updated to reflect all waste data available

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6 Soil from the hot spot excavation was loaded into crates for disposal If the data are available, the waste information in Table 8 will be better associated with field activities

7 A new map is being developed that will show features removed and remaining

8 Figure 7 was modified so that locations with contamination greater than background or MDL are yellow and those less than background or MDL are gray

9 Comparison of results to proposed WRW and ecological ALs was added to Section 3

10 The in-process confirmation data is in Tables 5 and 6

11 An AL comparison is not included in the stewardship evaluation

12 Sample depth information was added to Table 9 All results are for surface soil except at one location Sample depth will be added to Figure 7 for the one subsurface location

13 The DQA Section is being revised in response to CDPHE comments

IHSS Group 400-3 IASAP Addendum

1 "UBC" will be replaced with "buildings" in Section 1 2, page 2, third paragraph, fourth sentence and in Item 1

2 The use of the 22-meter grid was approved by CDPHE Additional biased samples will be collected, as necessary Additionally, when in the building, the opportunity to collect additional samples offset from the original under building characterization effort will be considered, based on actual conditions

3 Tanks 4, 5, and 6 and OPWL leaks P-5-1 and P-5-2 will be distinguished on Figure 1

4 Only results that exceed background means plus two standard deviations or detection limits are shown on figures Additionally, only data of "decision-making quality" are plotted Other data are used as information in defining COCs Soil outside of Building 444 and IHSS Group 400-3 will be characterized as part of IHSS Group 400-6 Text will be added that states that soil outside of Building 444 and IHSS Group 400-3 will be characterized as part of IHSS Group 400-6

5 In this case, it is believed that the tank shapes do not accurately represent the true locations of the tanks The bias samples within the building were placed at the OPWL tanks relative to photographs and actual site visits prior to the preparation of the SAP Addendum Table 3 will be updated to include sampling depth

6 The samples for OPWL tanks were included in the UBC bias samples (found on Figure 5 and in Table 4) These specific samples can be identified in a table that presents the bias sample rationale Table 3 will be updated to provide more detail

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7 Figure 2 will be changed to provide the correct AL for di-n-butylphate

8 VOCs are in Table 2 for this IHSS There are no drains in this area

9 Analyses of soil for pH have not proven instructive at other sites There are no ALs for pH However, VOCs will be added to the PCOC for IHSS 136 The depth that will be sampled will be 0 5' to 2 5'

10 RFETS staff is presenting as much information as is known Statistical sampling will be the most effective sampling strategy for finding contamination at IHSS 136 2 RFETS staff will try to determine the exact location and depth of the pond

11 PCOCs for OPWL leaks are radionuclides and metals VOCs will be added at these locations

12 As stated in the addendum, proposed sampling locations are the starting point for characterization Additional samples will be taken as needed VOCs will be added if field instrumentation indicates that VOCs are present

13 Laboratory methods in Table 3 will be reviewed and corrected

14 Two additional samples will be added west of the boundary of 400-116 2

15 The concrete dock is so thick, it is hard to core through and likewise, hard for contamination to migrate through RFETS staff has been unable to locate "the pit" or any signs of its existence Building personnel have been consulted as well as others The surface of the dock was sampled during the RLCR and results indicated no presence of contamination The area of the reported spills was cleaned after the spill There are UBC samples in this location

16 Soil surrounding UBC 444 will be sampled as part of IHSS Group 400-6

17 OPWL will be sampled in accordance with the proposed RFCA modification All other OPWL areas of interest are in the building, therefore, they appear in the UBC samples Table 3 will be updated to clarify

18 Additional detail will be added to Table 3 to provide a sampling rationale

19 These items are included where available Existing drawings are not always accurate Many of these features are identified during building walkdowns These features will be identified in Table 3

IHSS Group 500-2 IASAP Addendum

1 The text will be changed to say that existing data "may be used"

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2 Building 551 is not a UBC and not part of IHSS Group 500-2 Additional text will be added to justify why samples will not be collected under the building

3 The dock area is shown on the figures and will be identified A biased sample will be added in the dock area

4 The rail line runs along the western side of the building There are several samples located along the rail line The rail line will be added to the maps

5 Sampling locations CA41-034 and BZ42-003 are very close to the northern end of Building 551 To our knowledge, a dock has not existed on the north side of the building

6 The approximate outline of the detention pond will be drawn in on the maps

IV Meetings

The next meeting is scheduled for Thursday, May 29, 2003 from 10 30 AM to 12 00 PM

Distribution

H Ainscough, CDPHE
S Gunderson, CDPHE
D Kruchek, CDPHE
E Pottorff, CDPHE
C Spreng, CDPHE
T Rehder, USEPA
G Kleeman, USEPA
N Castenada, RFFO
R DiSalvo, RFFO
R McCallister, RFFO
S Surovchak, RFFO
R Tyler, RFFO

L Brooks, K-H ESS
M Broussard, K-H RISS
L Butler, K-H RISS
R Davis, K-H RISS
C Deck, K-H Legal
D Mayo, K-H RISS
J Mead, K-H ESS
S Nesta, K-H RISS
L Norland, K-H RISS
K North, K-H ESS
A Primrose, K-H RISS
D Shelton, K-H
K Wiemelt, K-H RISS

K Griggs, K-H Team
G Kelly, K-H Team
S Luker, K-H Team
D Radtke, K-H Team
D Reeder, K-H Team
M Ruthven, K-H Team
S Serreze, K-H Team
T Spence, K-H Team
E Woodland, K-H Team
Administrative Record
ER Meeting Minutes

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ENVIRONMENTAL RESTORATION
REGULATORY CONTACT RECORD

Date/Time: March 7, 2003

Site Contact(s): Nick Demos, Dave Strand
Phone: 303-966-4605, 303-966-6422

Regulatory Contact: Gary Kleeman, Carl Spreng, and Dave Kruchek
Phone: 303-312-6246, 303-692-3358, 303-692-3328

Agency(s): EPA, CDPHE

Purpose of Contact: Discuss Boundary Relocation for IHSS 700-163 2 (Buried Americium Concrete Slab North of Building 771)

Discussion

Based upon information provided by a retired employee of Rocky Flats (Jack Weaver, 35 yrs), the primary investigation area for IHSS 700-163 2 (Buried Americium Concrete Slab) has been changed as agreed in meetings held with EPA and CDPHE on February 27, 2003 The Historical Release Report (HRR) originally located the IHSS in an area currently under trailer T771N (immediately East of Trailer T771A) Mr Weaver formerly worked within Building 771 Management and was present when the Americium Tank was removed as well as when the concrete slab was buried Specifically, he has described an area where a large hole (over eight feet in depth) was excavated immediately northeast of Trailer 771A and under the current North Patrol Road Based upon his recollection, 5 geoprobe boreholes have been placed immediately North of the 1992 HRR IHSS location Three additional geoprobe boreholes have been sampled adjacent to Trailer 771N in the originally specified location of the IHSS Ground Penetrating Radar has been scheduled for both areas in the event that geoprobing is unsuccessful If the attempts described above are not successful in locating the concrete slab, it was agreed that the above actions would constitute sufficient effort for proposing No Further Action of IHSS 700-163 2 in the 2003 HRR

Distribution

S Gunderson, CDPHE	L Brooks, K-H ESS	D Kruchek, CDPHE M
Broussard, K-H RISS	E Pottorff, CDPHE	L Butler, K-H RISS
C Spreng, CDPHE	C Deck, K-H Legal	T Rehder, USEPA
D Mayo, K-H RISS	G Kleeman, USEPA	J Mead, K-H ESS

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S Serreze, K-H Team
Strand, K-H Team
Administrative Record
ER Meeting Minutes
S Surovchak, RFFO
N Demos, K-H Team

N Castenada, RFFO
R DiSalvo, RFFO
L Kilpatrick, RFFO
J Legare, RFFO
D Shelton, K-H

S Nesta, K-H RISS D
L Norland, K-H RISS
K North, K-H ESS
A Primrose, K-H RISS
Russ McCalister, RFFO

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ENVIRONMENTAL RESTORATION
REGULATORY CONTACT RECORD

Date/Time: May 1, 2003

Site Contact(s): Lane Butler, Marla Broussard, Susan Serreze
Phone: 303-966-5345, 303-966-6007, 303-966-2677

Regulatory Contact: Carl Spreng, Elizabeth Pottorff, Dave Kruchek, Harlen Ainscough
Phone: 303-692-3300

Agency: CDPHE

Purpose of Contact: Consultative Process Meeting– Meeting Notes

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Discussion

May 1, 2003, Comment Resolution Meeting
for
the Soil Risk Screen

A meeting was held on May 1, 2003 to discuss several draft reports However, the soil risk screen discussion took all available time

I Attendees

CDPHE Harlen Ainscough, Dave Kruchek, Elizabeth Pottorff, Carl Spreng
DOE Norma Castaneda, Rick DiSalvo, Russ McCallister, Reg Tyler
K-H Marla Broussard, Lane Butler
K-H Team Susan Serreze

II Report Status
CDPHE was asked when comments on the Characterization Data Summary Report for IHSSs 165 and 176 would be ready Carl Spreng stated that he would send comments soon

III Issues

1 The DQAs are being revised Three examples were handed out for review

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2 The soil risk screen process was discussed in detail IHSS Group 600-2 was used as an example The example IHSS Group 600-2 soil risk screen was revised with concurrence from all parties The revised soil risk screen language follows

"The Soil Risk Screen (SRS) follows the steps identified in Figure 3 in Attachment 5 of the RFCA Modification (DOE et al 2003)
Screen 1 – Are the contaminant of concern (COC) concentrations below RFCA Table 3 WRW Soil Action Levels?
Yes, all COCs are below WRW ALs
Screen 4 – Is there an environmental pathway and sufficient quantity of COCs that would cause an exceedance of the surface water standard (SWS)?
Migration via erosion and groundwater are the two possible pathways whereby surface water could become contaminated by PAC 400-802 Both pathways are unlikely based on the low levels of soil contaminants and this IHSS Group being located in a flat-lying area not prone to landslides or erosion
Groundwater monitoring results from nearby well 85202 do not indicate concentrations of analytes above RFCA groundwater Tier I ALs Results from this well indicate that cis-1,2-dichloroethene, tetrachloroethene, vinyl chloride and trichloroethene are greater than RFCA Tier II groundwater ALs, but less than Tier I groundwater ALs as shown in the following Table

Analyte	Result ug/L	Tier I AL ug/L	Tier II AL ug/L
Cis-1,2-dichloroethene	160	7000	70
Tetrachloroethene	78	500	5
Vinyl chloride	16	200	2
Trichloroethene	35	500	5

The nearest surface water Point of Evaluation (POE), GS50, is located approximately 3,000 feet northeast and the nearest Point of Compliance (POC), SW027, is located approximately one mile east-southeast of IHSS Group 600-2 GS50 is designed to monitor water from the Solar Evaporation Ponds and Triangle areas Recent data from SW027, which monitors water from a large part of the IA, indicate that radionuclides are present in very small quantities at this monitoring station (total uranium 428) However the analytes in well 85202 groundwater were not reported at SW027

Further groundwater evaluation will be part of the groundwater plume remedial decision and future sitewide evaluation

Screen 5 – Are COC concentrations below Table 3 Action Levels for Ecological Receptors?
Yes, all COC concentrations are below the ALs for Ecological Receptors "

It was agreed that the other cloesout report soil risk screen formats would following this format and language

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3 The need for a soil risk screen for surface soil was discussed The following language, but not a soil risk screen, was agreed to "Contamination migration via erosion is the possible pathway whereby surface water could become contaminated by PAC 900-175 However, because PAC 900-175 is not located in an area prone to landslides or high erosion and the surface soil COCs are present in very small concentrations and are limited in their areal extent further soil removal is not necessary to protect surface water " K-H sent this language to CDPHE on May 2, 2003 for final concurrence

It was agreed that at other IHSSs or IHSS groups where only surface soil was evaluated, the soil risk screen is not needed, but that this language along with the justification of why only surface soil was considered, will be added

IV Meetings

The next meeting is scheduled for Thursday, May 15, 2003, from 10 30 AM to 12 00 PM

Distribution

H Ainscough, CDPHE
S Gunderson, CDPHE
D Kruchek, CDPHE
E Pottorff, CDPHE
C Spreng, CDPHE
T Rehder, USEPA
G Kleeman, USEPA
N Castenada, RFFO
R DiSalvo, RFFO
R McCallister, RFFO
S Surovchak, RFFO
R Tyler, RFFO

L Brooks, K-H ESS
M Broussard, K-H RISS
L Butler, K-H RISS
R Davis, K-H RISS
C Deck, K-H Legal
D Mayo, K-H RISS
J Mead, K-H ESS
S Nesta, K-H RISS
L Norland, K-H RISS
K North, K-H ESS
A Primrose, K-H RISS
D Shelton, K-H
K Wiemelt, K-H RISS

K Griggs, K-H Team
G Kelly, K-H Team
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D Reeder, K-H Team
M Ruthven, K-H Team
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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
ENVIRONMENTAL RESTORATION
REGULATORY CONTACT RECORD

Date/Time: March 7, 2003

Site Contact(s): Nick Demos, Dave Strand
Phone: 303-966-4605, 303-966-6422

Regulatory Contact: Gary Kleeman, Carl Spreng, and Dave Kruchek
Phone: 303-312-6246, 303-692-3358, 303-692-3328

Agency(s): EPA, CDPHE

Purpose of Contact: Discuss Boundary Relocation for IHSS 700-163 2 (Buried Americium Concrete Slab North of Building 771)

Discussion
Based upon information provided by a retired employee of Rocky Flats (Jack Weaver, 35 yrs), the primary investigation area for IHSS 700-163 2 (Buried Americium Concrete Slab) has been changed as agreed in meetings held with EPA and CDPHE on February 27, 2003 The Historical Release Report (HRR) originally located the IHSS in an area currently under trailer T771N (immediately East of Trailer T771A) Mr Weaver formerly worked within Building 771 Management and was present when the Americium Tank was removed as well as when the concrete slab was buried Specifically, he has described an area where a large hole (over eight feet in depth) was excavated immediately northeast of Trailer 771A and under the current North Patrol Road Based upon his recollection, 5 geoprobe boreholes have been placed immediately North of the 1992 HRR IHSS location Three additional geoprobe boreholes have been sampled adjacent to Trailer 771N in the originally specified location of the IHSS Ground Penetrating Radar has been scheduled for both areas in the event that geoprobing is unsuccessful If the attempts described above are not successful in locating the concrete slab, it was agreed that the above actions would constitute sufficient effort for proposing No Further Action of IHSS 700-163 2 in the 2003 HRR

Distribution

S Gunderson, CDPHE	L Brooks, K-H ESS	D Kruchek, CDPHE M
Broussard, K-H RISS	E Pottorff, CDPHE	L Butler, K-H RISS
C Spreng, CDPHE	C Deck, K-H Legal	T Rehder, USEPA
D Mayo, K-H RISS	G Kleeman, USEPA	J Mead, K-H ESS

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S Serreze, K-H Team
Strand, K-H Team
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S Surovchak, RFFO
N Demos, K-H Team

N Castenada, RFFO
R DiSalvo, RFFO
L Kilpatrick, RFFO
J Legare, RFFO
D Shelton, K-H

S Nesta, K-H RISS D
L Norland, K-H RISS
K North, K-H ESS
A Primrose, K-H RISS
Russ McCalister, RFFO

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APPENDIX B

Figure 1 Coring outside building

Figure 2 Coring outside of buildings

Figure 3 Soil sampling

Figure 4 Soil Sampling

Figure 1 Tank removal

Figure 2 Soil excavation beneath tank

Figure 5 Tank removal

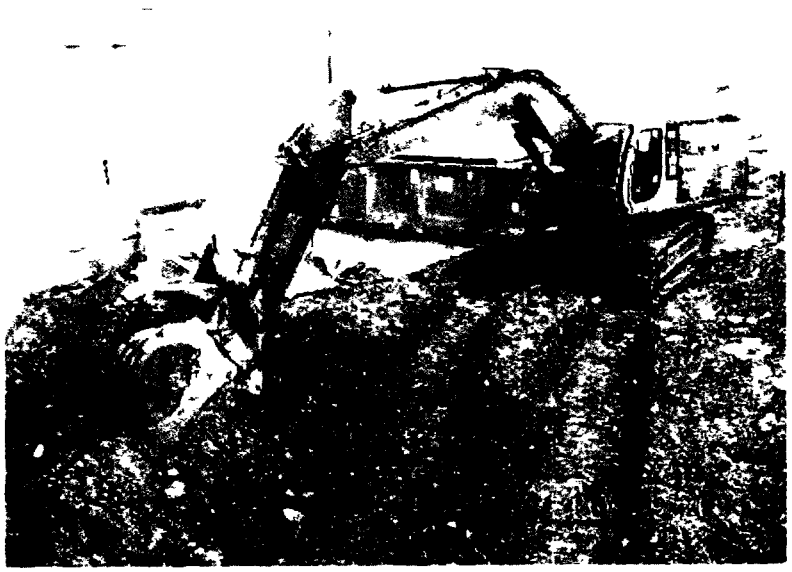

Figure 6 Soil excavation beneath tanks

Figure 7 Fiddler reading at soil excavation area beneath tanks

Figure 8 Fiddler reading at soil excavation area beneath tanks

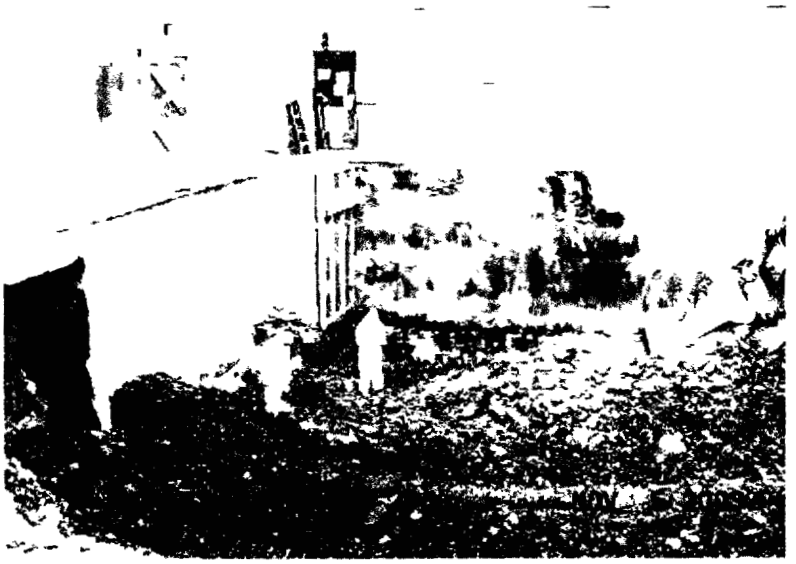

Figure 9 Soil excavation area at Tanks

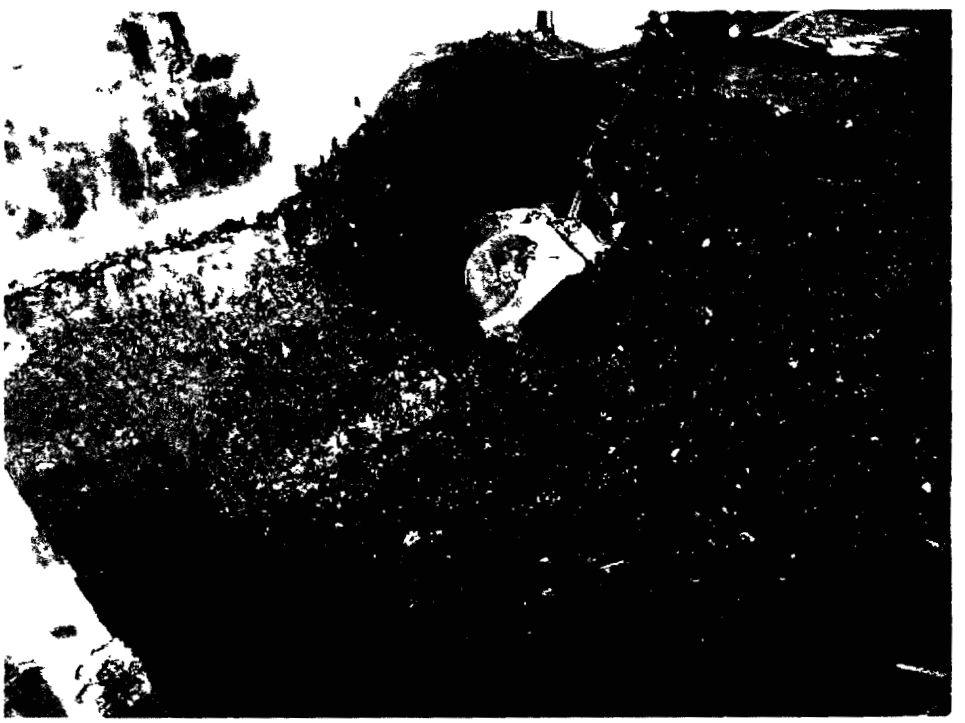

Figure 10 Cleaning remainder of soil excavation

Figure 11 Cleaning remainder of soil excavation

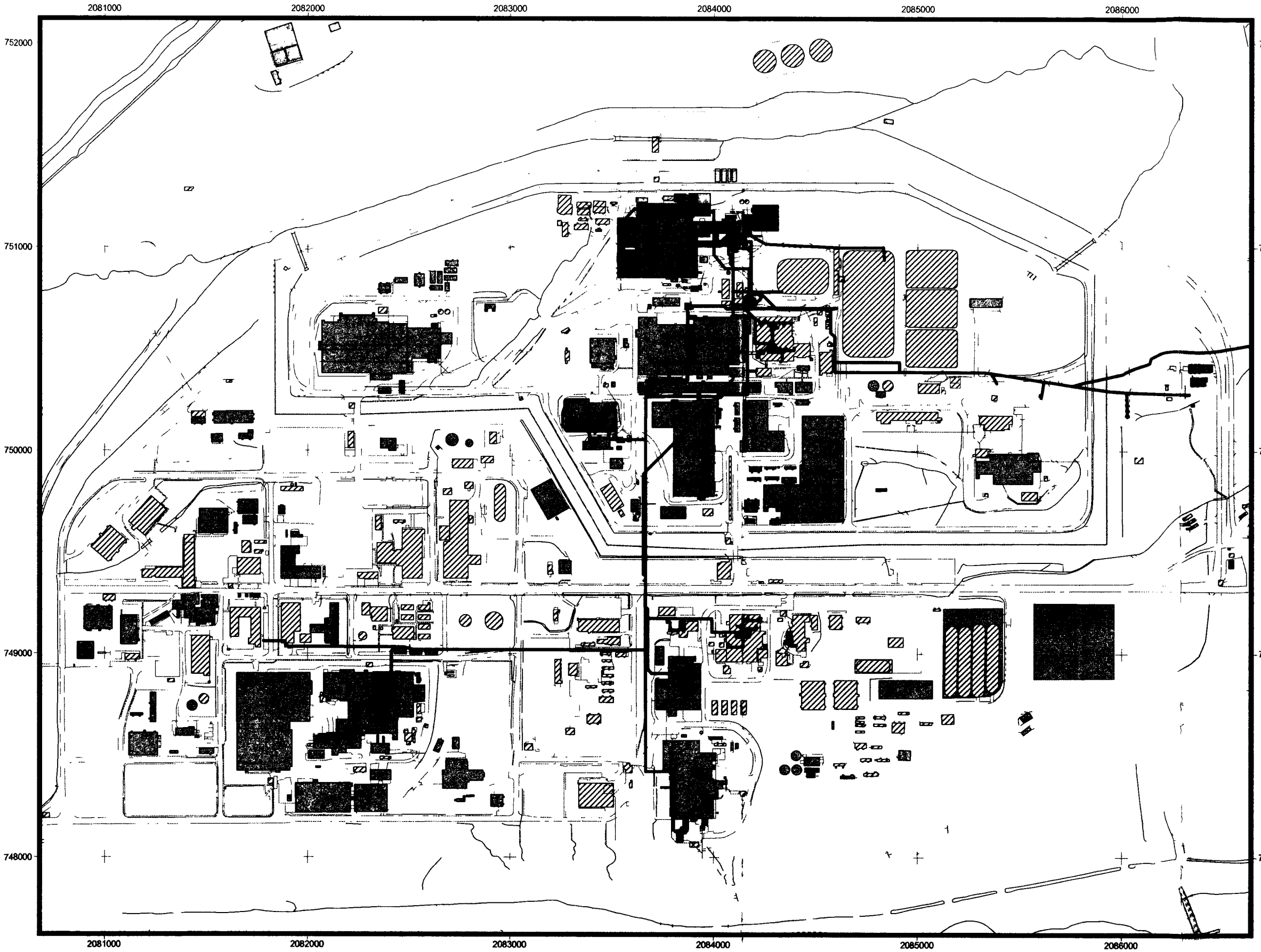

Figure 1
IHSS Group 700-4

KEY

- UBC
- IHSS
- OPWL
- Tanks

Building

- Demolished
- Standing
- Paved Area
- Dirt Road
- Stream ditch or drainage

N

200 0 200 400 Feet

Scale = 1 6 000

State Plane Coordinate Projection
Colorado Central Zone
Datum NAD 27

U S Department of Energy
Rocky Flats Environmental Technology Site

Date: October 2003

Prepared for:

Prepared by: KAISER HILL COMPANY

File: W:\Projects\Fy2003\700-4\Closeout\
Map Redo 9-10-03\700-4dsr_9-10-03 apr

10

Best Available Copy

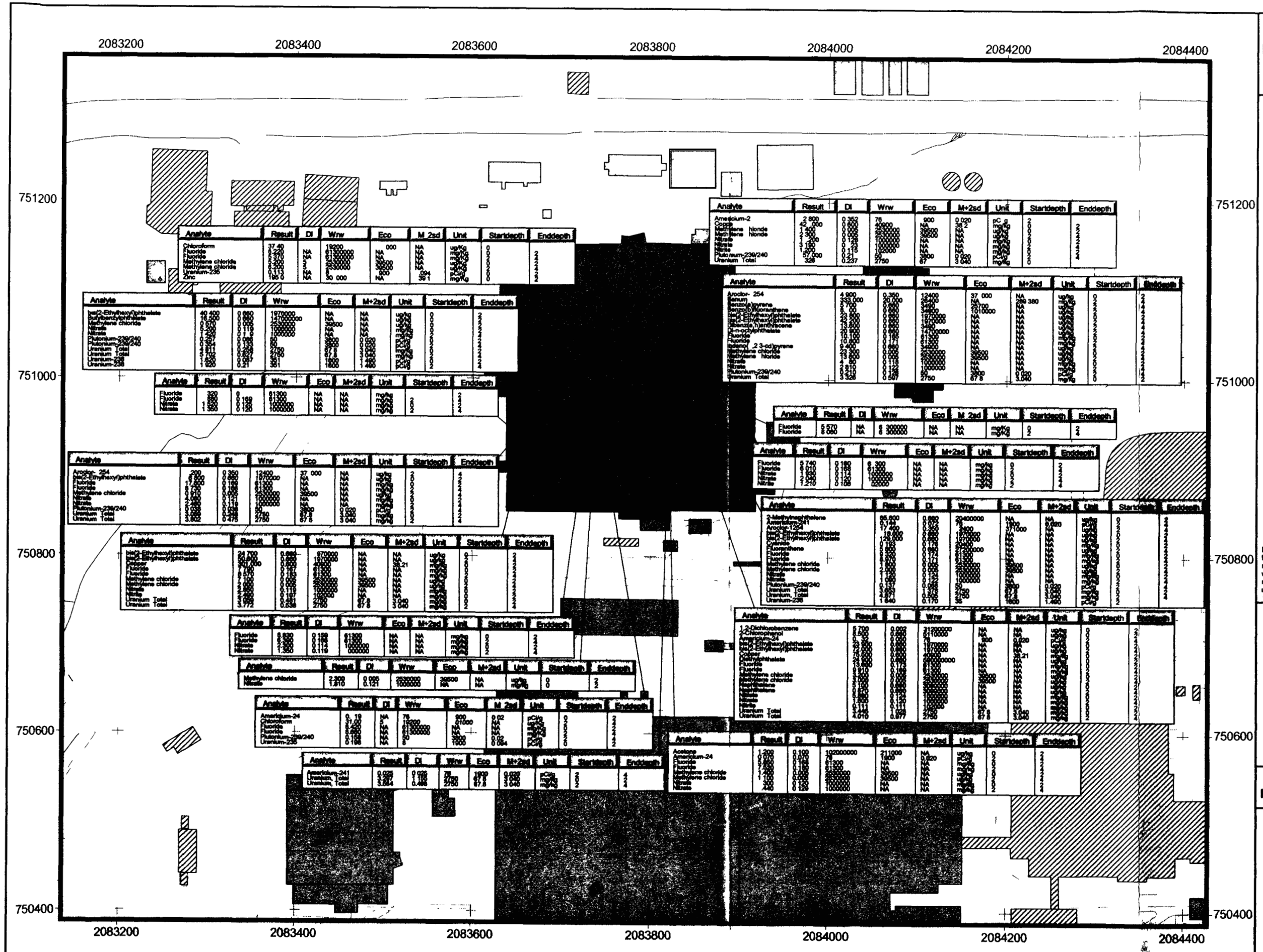

Figure 8
UBC 771 Pre-Characterization Sampling Data

KEY

- WRW Exceedance
- Less than ALs
- UBC
- Dirt road
- Paved area
- Stream ditch or drainage

Building

- Demolished
- Standing

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W
S

50 0 50 Feet

Scale = 1 1300

State Plane Coordinate Projection
Colorado Central Zone
Datum NAD 27

U S Department of Energy
Rocky Flats Environmental Technology Site

Prepared by

Date: 11.20.03

Prepared for

KAISER-HILL COMPANY

File: W \Projects\Fy2003\700-4\Closeout\ 700-4prelimchar apr

17

Figure 9
IHSS Group 700-4
Tank 14 and 16
Sampling Locations and Results

2083800 2083900 2084000 2084100 2084200 2084300

751200 751100 751000 750900

Analyte	Result	DI	Wrw	Eco	M 2sd	Unit	Startdepth	Enddepth
Americium-241	168 900	1 293	76	1900	0 023	pCi/g	0 0	0 5
Plutonium-239/240	962 730	1 293	50	3800	0 066	pCi/g	0 0	0 5
Uranium-235	0 149	0 131	8	1900	0 094	pCi/g	0 0	0 5

Analyte	Result	DI	Wrw	Eco	M 2sd	Unit	Startdepth	Enddepth
Americium-241	727 900	2 939	76	1900	0 023	pCi/g	0 0	0 5
Plutonium-239/240	4149 030	2 939	50	3800	0 066	pCi/g	0 0	0 5
Uranium-235	0 156	0 087	8	1900	0 094	pCi/g	0 0	0 5

KEY

- WRW Exceedance
- Detection Less than Action Levels
- Drains
- OPWL
- Tank
- OPWL Known Leaks
- UBC
- IHSS
- Paved Area
- Dirt Road
- Stream ditch or drainage

Building
- Demolished
- Standing

W

25 0 25 50 Feet

Scale = 1 550

State Plane Coordinate Projection
Colorado Central Zone
Datum NAD 27

U S Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: [redacted] Date: 11 25 03

Prepared for: KAISER-HILL COMPANY

File: W:\Projects\Fy2003\700-4\Closeout\Map Redo 9-10-03\700-4dsr_9-10-03.apr

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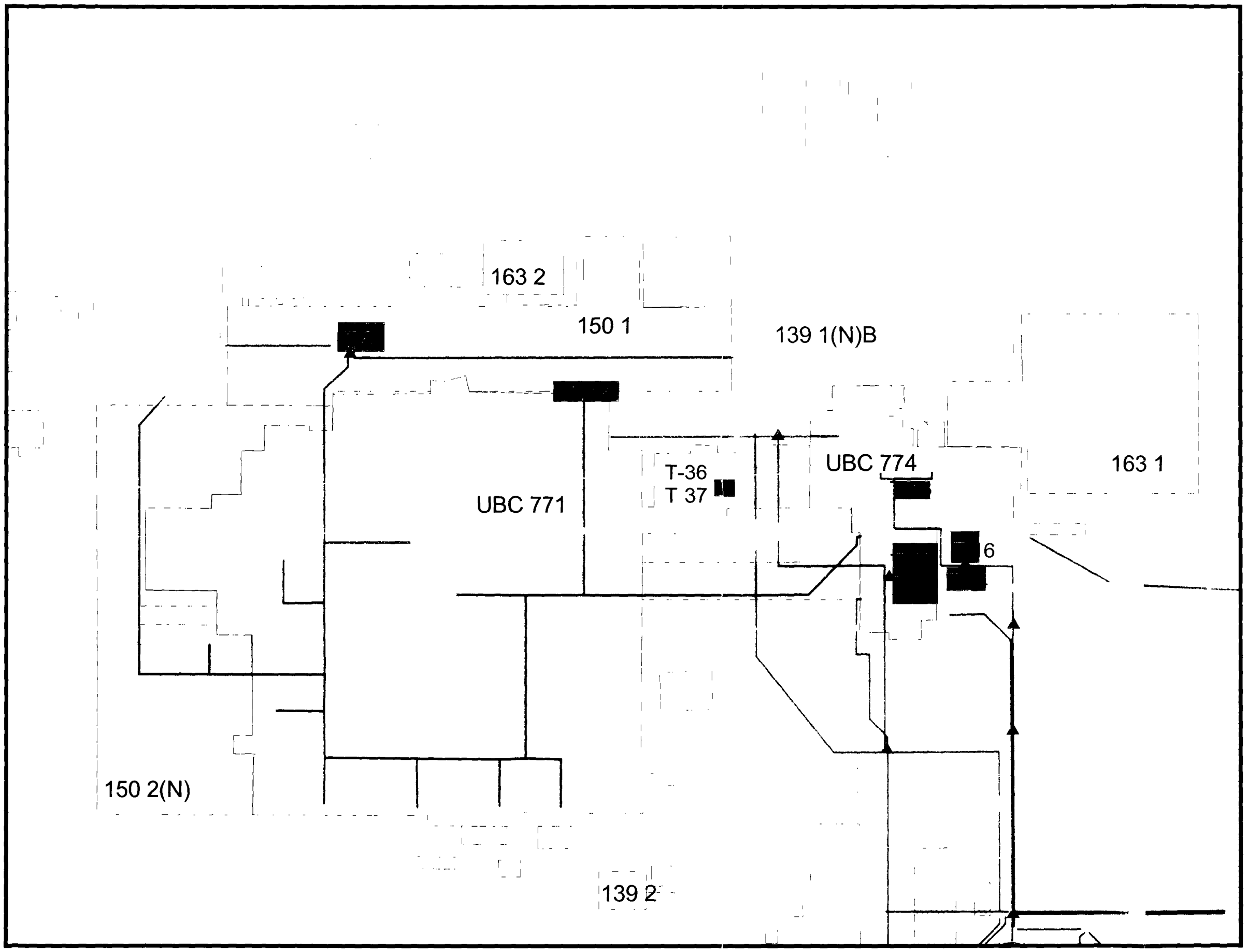
Figure 2
IHSS Group 700 4



KEY

- UBC
- IHSS
- OPWL
- OPWL Known Leaks
- Tank

Building

- Demolished
- Standing

- Paved Area
- Dirt Road
- Stream ditch or drainage

N

20 0 20 40 60 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum NAD 27

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RADMS

Figure 10
IHSS Group 700-4
Tank 14 and Tank 16
Confirmation Sampling Locations Results and Residual Contamination

KEY

- Greater than WRW Action Level
- Detection Less than Action Levels
- Drains
- OPWL
- Tank
- OPWL Known Leaks
- UBC
- IHSS
- Paved Area
- Dirt Road
- Stream ditch or drainage

Building
- Demolished
- Standing

W

50 0 50 Feet

Scale = 1 800

State Plane Coordinate Projection
Colorado Central Zone
Datum NAD 27

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Rocky Flats Environmental Technology Site

Prepared by

Date: 12.01.03

[redacted]

Prepared for

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File. W \Projects\Fy2003\700-4\Closeout\
Map Redo 9-10-03\700-4dsr_9-10-03.apr

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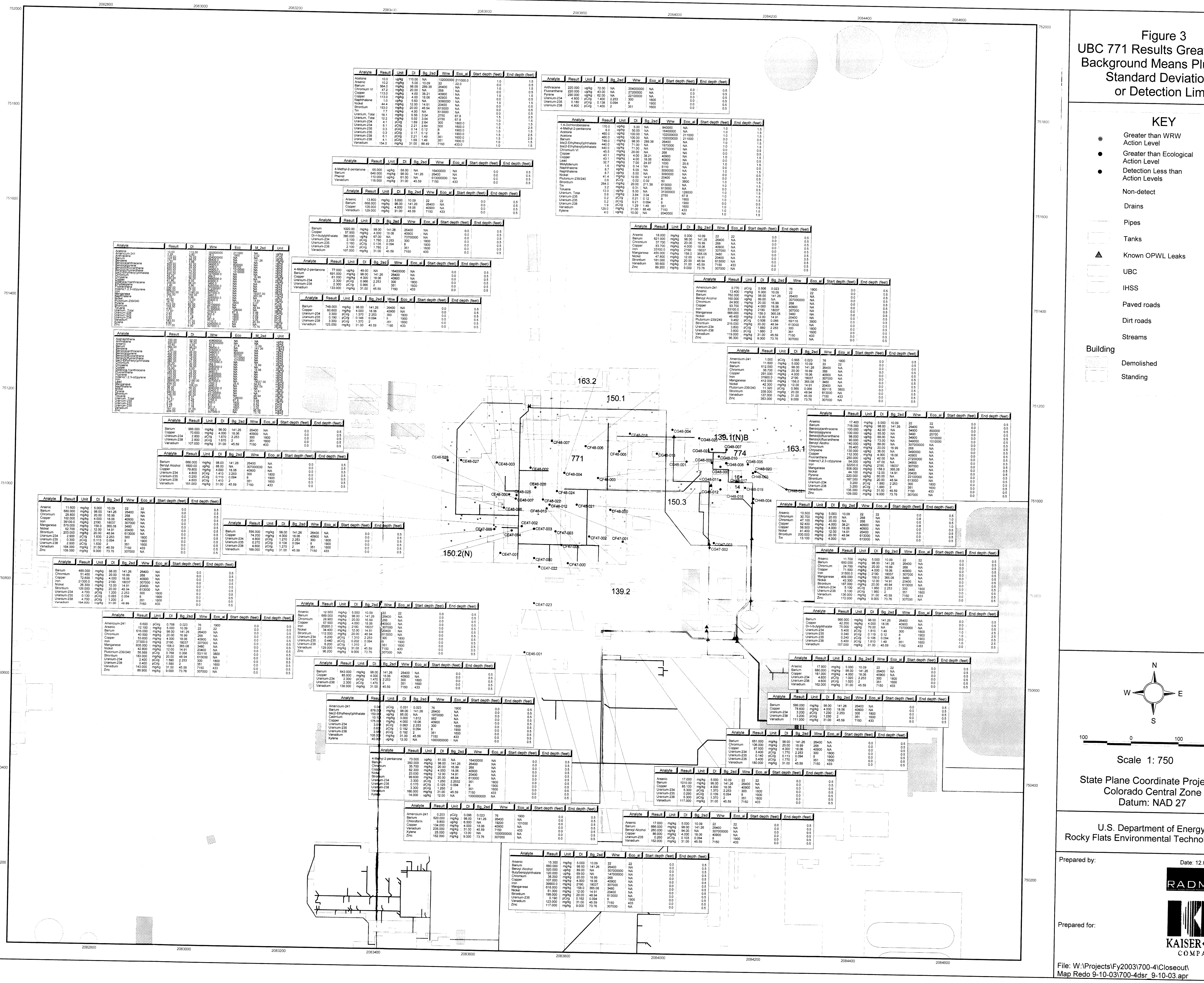


Figure 3
UBC 771 Results Greater Than Background Means Plus Two Standard Deviations or Detection Limit

KEY

- Greater than WRW Action Level
- Greater than Ecological Action Level
- Detection Less than Action Levels
- Non-detect
- Drains
- Pipes
- Tanks
- Known OPWL Leaks
- UBC
- IHSS
- Paved roads
- Dirt roads
- Streams

Building
- Demolished
- Standing

N W E S

100 0 100 200 Feet

Scale 1: 750

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: Date: 12.01.03

RADMS

Prepared for:

KAISER•HILL COMPANY

File: W:\Projects\Fy2003\700-4\Closeout\
Map Redo 9-10-03\700-4dsr_9-10-03.apr

Figure 7
IHSS 139.2 and 150.2 Results Greater Than Background Means Plus Two Standard Deviations or Method Detection Limits

KEY

- Greater than WRW Action Level
- Greater than Ecological Action Level
- Detection Less than Actions Levels
- Non-detect
- Drains
- Pipes
- Tanks
- Known OPWL Leaks
- UBC
- IHSS
- Paved roads
- Dirt roads
- Streams

Building

- Demolished
- Standing

N
W E
S

100 0 100 Feet

Scale = 1: 1070

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared By: September 2003

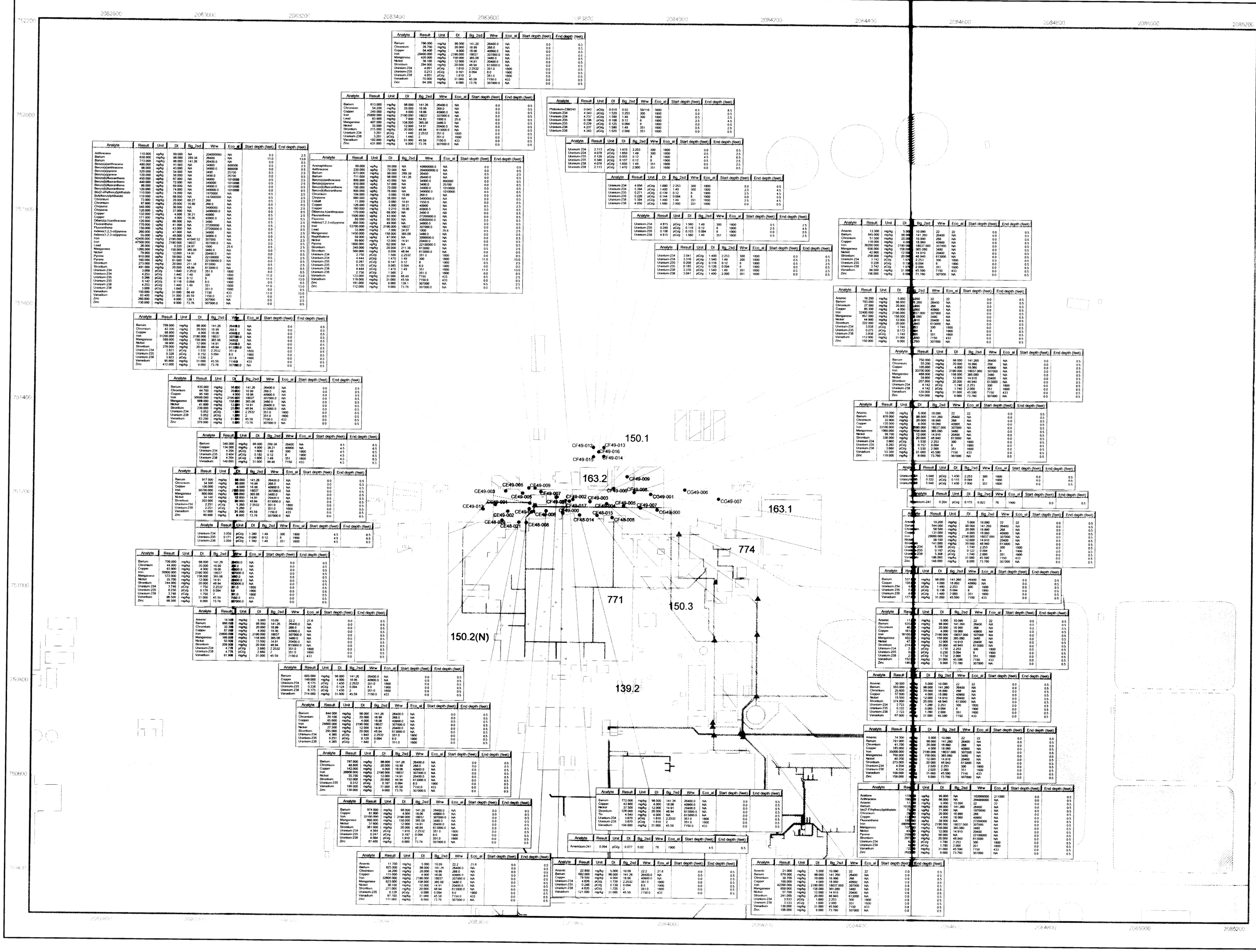
RADMS
RISK ACTION DECISION MANAGEMENT SYSTEM

Prepared For:

KAISER•HILL COMPANY

File: W://Projects/FY2003/700-4/closeout/
Map redo 9-10-03/700-4dsr_9-10-03.apr

Figure 6
IHSS 150.1 and 163.2
Results Greater Than Background Means Plus Two Standard Deviations or Method Detection Limits



KEY

- Greater than WRW Action Level
- Greater than Ecological Action Level
- Detection Less than Action Levels
- Non-detect
- Drains
- Pipes
- Tanks
- Known OPWL Leaks
- UBC
- IHSS
- Paved roads
- Dirt roads
- Streams

Building

- Demolished
- Standing

N

Scale = 1: 1150

100 0 100 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

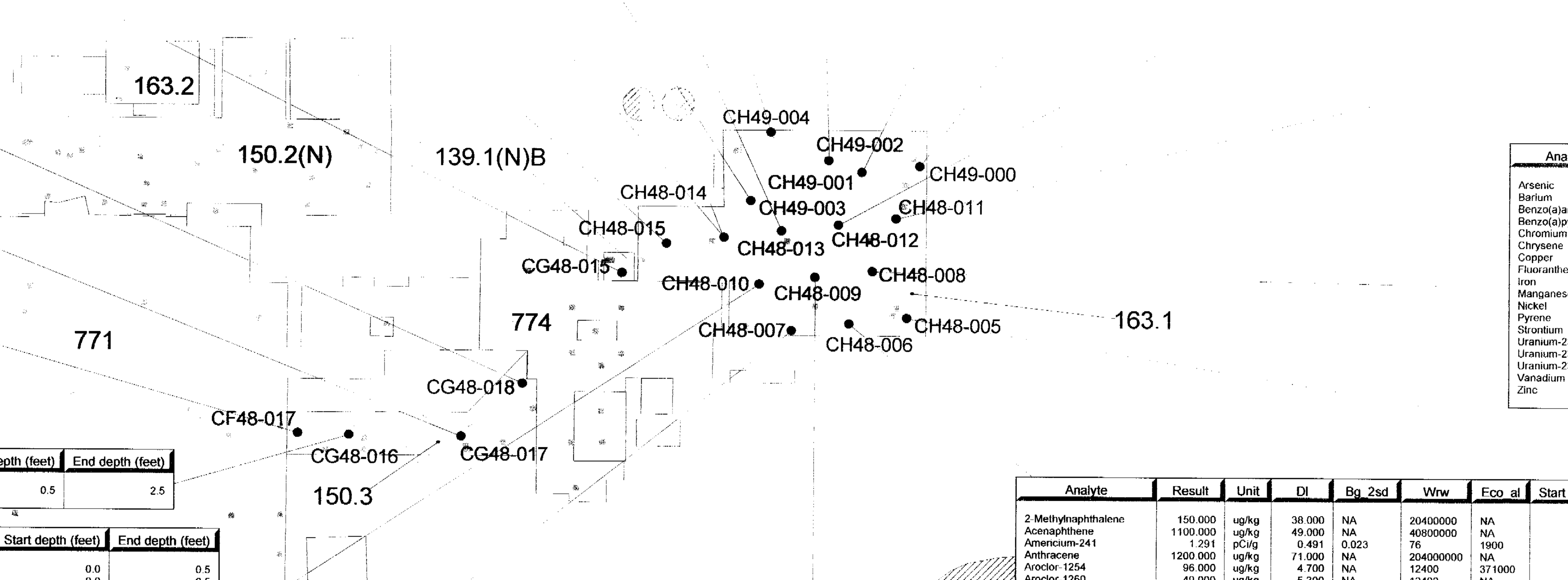
Prepared by: RADMS

Date: 10.14.03

Prepared for: KAISER•HILL COMPANY

File: W://Projects/FY2003/700-4/closeout/
Map redo 9-10-03/700-4dsr_9-10-03.apr

Figure 5
IHSS 139.1, 150.3 and 163.1 Results Greater Than Background Means Plus Two Standard Deviations or Method Detection Limits



Grid coordinates: 2083400, 2083600, 2083800, 2084000, 2084200, 2084400, 2084600, 2084800, 2085000, 2085200; 752000, 751800, 751600, 751400, 751200, 751000, 750800

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Acenaphthene	100.000	ug/kg	50.000	NA	40800000	NA	0.0	0.5
Americium-241	0.882	pCi/g	0.503	0.023	76	1900	0.0	0.5
Anthracene	150.000	ug/kg	72.000	NA	204000000	NA	0.0	0.5
Aroclor-1254	86.000	ug/kg	4.800	NA	12400	371000	0.0	0.5
Aroclor-1260	29.000	ug/kg	5.300	NA	12400	NA	0.0	0.5
Arsenic	10.900	mg/kg	5.000	10.090	22	22	0.0	0.5
Barium	731.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Benzo(a)anthracene	440.000	ug/kg	43.000	NA	34900	800000	0.0	0.5
Benzo(a)pyrene	460.000	ug/kg	56.000	NA	3490	25700	0.0	0.5
Benzo(b)fluoranthene	390.000	ug/kg	69.000	NA	34900	1010000	0.0	0.5
Benzo(k)fluoranthene	440.000	ug/kg	75.000	NA	349000	1010000	0.0	0.5
Chromium	44.200	mg/kg	20.000	16.990	268	NA	0.0	0.5
Chrysene	490.000	ug/kg	37.000	NA	3490000	NA	0.0	0.5
Copper	82.700	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Dibenz(a,h)anthracene	90.000	ug/kg	68.000	NA	3490	NA	0.0	0.5
Fluoranthene	1300.000	ug/kg	43.000	NA	27200000	NA	0.0	0.5
Fluorene	79.000	ug/kg	60.000	NA	40800000	NA	0.0	0.5
Indeno(1,2,3-cd)pyrene	290.000	ug/kg	49.000	NA	34900	NA	0.0	0.5
Iron	28600.000	mg/kg	2190.000	18037.000	307000	NA	0.0	0.5
Manganese	411.000	mg/kg	158.000	365.080	3480	NA	0.0	0.5
Nickel	35.800	mg/kg	12.000	14.910	20400	NA	0.0	0.5
Plutonium-239/240	10.366	pCi/g	0.503	0.066	#VALUE!	3800	0.0	0.5
Pyrene	830.000	ug/kg	62.000	NA	22100000	NA	0.0	0.5
Strontium	169.000	mg/kg	20.000	48.940	613000	NA	0.0	0.5
Uranium-234	3.438	pCi/g	1.720	2.253	300	1800	0.0	0.5
Uranium-235	0.265	pCi/g	0.135	0.094	8	1900	0.0	0.5
Uranium-238	3.438	pCi/g	1.720	2.000	351	1600	0.0	0.5
Vanadium	131.000	mg/kg	31.000	45.590	7150	433	0.0	0.5
Zinc	168.000	mg/kg	9.000	73.760	307000	NA	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Acenaphthene	90.000	ug/kg	51.000	NA	40800000	NA	0.0	0.5
Americium-241	0.453	pCi/g	0.226	0.023	76	1900	0.0	0.5
Anthracene	110.000	ug/kg	73.000	NA	204000000	NA	0.0	0.5
Aroclor-1254	65.000	ug/kg	4.900	NA	12400	371000	0.0	0.5
Aroclor-1260	74.000	ug/kg	5.500	NA	12400	NA	0.0	0.5
Arsenic	13.000	mg/kg	5.000	10.090	22	22	0.0	0.5
Barium	610.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Benzo(a)anthracene	370.000	ug/kg	44.000	NA	34900	800000	0.0	0.5
Benzo(a)pyrene	380.000	ug/kg	58.000	NA	3490	25700	0.0	0.5
Benzo(b)fluoranthene	350.000	ug/kg	71.000	NA	34900	1010000	0.0	0.5
Benzo(k)fluoranthene	330.000	ug/kg	77.000	NA	349000	1010000	0.0	0.5
Chromium	56.400	mg/kg	20.000	16.990	268	NA	0.0	0.5
Chrysene	430.000	ug/kg	38.000	NA	3490000	NA	0.0	0.5
Copper	101.000	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Dibenz(a,h)anthracene	110.000	ug/kg	70.000	NA	3490	NA	0.0	0.5
Fluoranthene	880.000	ug/kg	44.000	NA	27200000	NA	0.0	0.5
Fluorene	63.000	ug/kg	61.000	NA	40800000	NA	0.0	0.5
Indeno(1,2,3-cd)pyrene	230.000	ug/kg	50.000	NA	34900	NA	0.0	0.5
Iron	30600.000	mg/kg	2190.000	18037.000	307000	NA	0.0	0.5
Manganese	405.000	mg/kg	158.000	365.080	3480	NA	0.0	0.5
Nickel	38.700	mg/kg	12.000	14.910	20400	NA	0.0	0.5
Plutonium-239/240	0.260	pCi/g	0.074	0.066	50	3800	0.0	0.5
Pyrene	830.000	ug/kg	63.000	NA	22100000	NA	0.0	0.5
Strontium	148.000	mg/kg	20.000	48.940	613000	NA	0.0	0.5
Vanadium	143.000	mg/kg	31.000	45.590	7150	433	0.0	0.5
Zinc	180.000	mg/kg	0.610	73.760	307000	NA	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Acenaphthene	210.000	ug/kg	51.000	NA	40800000	NA	0.0	0.5
Americium-241	1.061	pCi/g	0.544	0.023	76	1900	0.0	0.5
Anthracene	240.000	ug/kg	73.000	NA	204000000	NA	0.0	0.5
Aroclor-1254	79.000	ug/kg	4.900	NA	12400	371000	0.0	0.5
Arsenic	12.400	mg/kg	5.000	10.090	22	22	0.0	0.5
Barium	710.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Benzo(a)anthracene	580.000	ug/kg	44.000	NA	34900	800000	0.0	0.5
Benzo(a)pyrene	620.000	ug/kg	58.000	NA	3490	25700	0.0	0.5
Benzo(b)fluoranthene	480.000	ug/kg	71.000	NA	34900	1010000	0.0	0.5
Benzo(k)fluoranthene	640.000	ug/kg	77.000	NA	349000	1010000	0.0	0.5
bis(2-Ethylhexyl)phthalate	110.000	ug/kg	79.000	NA	1970000	NA	0.0	0.5
Chromium	49.000	mg/kg	20.000	16.990	268	NA	0.0	0.5
Chrysene	650.000	ug/kg	38.000	NA	3490000	NA	0.0	0.5
Copper	148.000	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Dibenz(a,h)anthracene	120.000	ug/kg	70.000	NA	3490	NA	0.0	0.5
Dibenzofuran	67.000	ug/kg	56.000	NA	2950000	NA	0.0	0.5
Fluoranthene	1800.000	ug/kg	44.000	NA	27200000	NA	0.0	0.5
Fluorene	150.000	ug/kg	61.000	NA	40800000	NA	0.0	0.5
Indeno(1,2,3-cd)pyrene	370.000	ug/kg	50.000	NA	34900	NA	0.0	0.5
Iron	31300.000	mg/kg	2190.000	18037.000	307000	NA	0.0	0.5
Manganese	600.000	mg/kg	158.000	365.080	3480	NA	0.0	0.5
Naphthalene	70.000	ug/kg	47.000	NA	3090000	NA	0.0	0.5
Nickel	41.100	mg/kg	12.000	14.910	20400	NA	0.0	0.5
Plutonium-239/240	11.813	pCi/g	0.544	0.066	#VALUE!	3800	0.0	0.5
Pyrene	1200.000	ug/kg	63.000	NA	22100000	NA	0.0	0.5
Strontium	174.000	mg/kg	20.000	48.940	613000	NA	0.0	0.5
Uranium-234	3.120	pCi/g	1.690	2.253	300	1800	0.0	0.5
Uranium-235	0.189	pCi/g	0.133	0.094	8	1900	0.0	0.5
Uranium-238	3.120	pCi/g	1.690	2.000	351	1600	0.0	0.5
Vanadium	97.100	mg/kg	31.000	45.590	7150	433	0.0	0.5
Zinc	282.000	mg/kg	9.000	73.760	307000	NA	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Barium	659.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Copper	86.900	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Uranium-234	4.264	pCi/g	1.510	2.253	300	1800	0.0	0.5
Uranium-235	0.199	pCi/g	0.112	0.094	8	1900	0.0	0.5
Uranium-238	4.264	pCi/g	1.510	2.000	351	1600	0.0	0.5
Vanadium	129.000	mg/kg	31.000	45.590	7150	433	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
2-Methylnaphthalene	110.000	ug/kg	41.000	NA	20400000	NA	0.0	0.5
Acenaphthene	510.000	ug/kg	52.000	NA	40800000	NA	0.0	0.5
Americium-241	0.902	pCi/g	0.436	0.023	76	1900	0.0	0.5
Anthracene	560.000	ug/kg	75.000	NA	204000000	NA	0.0	0.5
Aroclor-1254	46.000	ug/kg	5.000	NA	12400	371000	0.0	0.5
Barium	608.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Benzo(a)anthracene	1100.000	ug/kg	45.000	NA	34900	800000	0.0	0.5
Benzo(a)pyrene	1100.000	ug/kg	59.000	NA	3490	25700	0.0	0.5
Benzo(b)fluoranthene	910.000	ug/kg	73.000	NA	34900	1010000	0.0	0.5
Benzo(k)fluoranthene	1000.000	ug/kg	79.000	NA	349000	1010000	0.0	0.5
Chromium	37.400	mg/kg	20.000	16.990	268	NA	0.0	0.5
Chrysene	1300.000	ug/kg	39.000	NA	3490000	NA	0.0	0.5
Copper	137.000	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Dibenz(a,h)anthracene	200.000	ug/kg	72.000	NA	3490	NA	0.0	0.5
Dibenzofuran	210.000	ug/kg	58.000	NA	2950000	NA	0.0	0.5
Fluoranthene	3700.000	ug/kg	45.000	NA	27200000	NA	0.0	0.5
Fluorene	360.000	ug/kg	62.000	NA	40800000	NA	0.0	0.5
Indeno(1,2,3-cd)pyrene	620.000	ug/kg	51.000	NA	34900	NA	0.0	0.5
Iron	23800.000	mg/kg	2190.000	18037.000	307000	NA	0.0	0.5
Naphthalene	320.000	ug/kg	49.000	NA	3090000	NA	0.0	0.5
Nickel	32.100	mg/kg	12.000	14.910	20400	NA	0.0	0.5
Plutonium-239/240	10.526	pCi/g	0.436	0.066	#VALUE!	3800	0.0	0.5
Pyrene	2800.000	ug/kg	65.000	NA	22100000	NA	0.0	0.5
Strontium	156.000	mg/kg	20.000	48.940	613000	NA	0.0	0.5
Uranium-234	4.329	pCi/g	1.440	2.253	300	1800	0.0	0.5
Uranium-235	0.241	pCi/g	0.117	0.094	8	1900	0.0	0.5
Uranium-238	4.329	pCi/g	1.440	2.000	351	1600	0.0	0.5
Vanadium	112.000	mg/kg	31.000	45.590	7150	433	0.0	0.5
Zinc	132.000	mg/kg	9.000	73.760	307000	NA	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Arsenic	11.300	mg/kg	5.000	10.090	22	22	0.0	0.5
Barium	618.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Chromium	40.600	mg/kg	20.000	16.990	268	NA	0.0	0.5
Copper	76.300	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Iron	28400.000	mg/kg	2190.000	18037.000	307000	NA	0.0	0.5
Nickel	37.300	mg/kg	12.000	14.910	20400	NA	0.0	0.5
Strontium	128.000	mg/kg	20.000	48.940	613000	NA	0.0	0.5
Uranium-234	2.736	pCi/g	1.610	2.253	300	1800	0.0	0.5
Uranium-235	0.258	pCi/g	0.145	0.094	8	1900	0.0	0.5
Uranium-238	2.736	pCi/g	1.610	2.000	351	1600	0.0	0.5
Vanadium	135.000	mg/kg	31.000	45.590	7150	433	0.0	0.5
Zinc	97.300	mg/kg	9.000	73.760	307000	NA	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Aroclor-1254	13.000	ug/kg	4.600	NA	12400	371000	0.0	0.5
Barium	899.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Copper	95.600	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Strontium	290.000	mg/kg	20.000	48.940	613000	NA	0.0	0.5
Uranium-234	4.696	pCi/g	1.680	2.253	300	1800	0.0	0.5
Uranium-235	0.309	pCi/g	0.129	0.094	8	1900	0.0	0.5
Uranium-238	4.696	pCi/g	1.680	2.000	351	1600	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Aroclor-1254	18.000	ug/kg	4.600	NA	12400	371000	0.0	0.5
Arsenic	12.900	mg/kg	5.000	10.090	22	22	0.0	0.5
Barium	659.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Benzo(a)anthracene	120.000	ug/kg	43.000	NA	34900	800000	0.0	0.5
Benzo(a)pyrene	140.000	ug/kg	56.000	NA	3490	25700	0.0	0.5
Benzo(b)fluoranthene	100.000	ug/kg	69.000	NA	34900	1010000	0.0	0.5
Benzo(k)fluoranthene	130.000	ug/kg	74.000	NA	349000	1010000	0.0	0.5
Chromium	34.100	mg/kg	20.000	16.990	268	NA	0.0	0.5
Chrysene	130.000	ug/kg	37.000	NA	3490000	NA	0.0	0.5
Copper	45.000	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Fluoranthene	280.000	ug/kg	43.000	NA	27200000	NA	0.0	0.5
Indeno(1,2,3-cd)pyrene	83.000	ug/kg	48.000	NA	34900	NA	0.0	0.5
Iron	26500.000	mg/kg	2190.000	18037.000	307000	NA	0.0	0.5
Manganese	372.000	mg/kg	158.000	365.080	3480	NA	0.0	0.5
Nickel	35.000	mg/kg	12.000	14.910	20400	NA	0.0	0.5
Pyrene	210.000	ug/kg	61.000	NA	22100000	NA	0.0	0.5
Strontium	181.000	mg/kg	20.000	48.940	613000	NA	0.0	0.5
Uranium-234	3.267	pCi/g	1.520	2.253	300	1800	0.0	0.5
Uranium-235	0.164	pCi/g	0.128	0.094	8	1900	0.0	0.5
Uranium-238	3.267	pCi/g	1.520	2.000	351	1600	0.0	0.5
Vanadium	104.000	mg/kg	31.000	45.590	7150	433	0.0	0.5
Zinc	102.000	mg/kg	9.000	73.760	307000	NA	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Arsenic	13.900	mg/kg	5.000	10.090	22	22	0.0	0.5
Barium	776.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Copper	141.000	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Iron	72600.000	mg/kg	2190.000	18037.000	307000	NA	0.0	0.5
Manganese	1580.000	mg/kg	158.000	365.080	3480	NA	0.0	0.5
Uranium-234	3.071	pCi/g	1.540	2.253	300	1800	0.0	0.5
Uranium-235	0.235	pCi/g	0.128	0.094	8	1900	0.0	0.5
Uranium-238	3.071	pCi/g	1.540	2.000	351	1600	0.0	0.5
Vanadium	196.000	mg/kg	31.000	45.590	7150	433	0.0	0.5
Zinc	284.000	mg/kg	9.000	73.760	307000	NA	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Aluminum	25000.000	mg/kg	2.900	16902.000	228000	NA	0.0	0.5
Arsenic	15.300	mg/kg	5.000	13.14	22.2	21.6	0.5	2.5
Arsenic	12.900	mg/kg	5.000	10.090	22	22	0.0	0.5
Barium	699.000	mg/kg	98.000	289.38	26400	NA	0.5	2.5
Barium	549.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Beryllium	1.000	mg/kg	0.046	0.966	921	2	0.0	0.5
Chromium	39.600	mg/kg	0.098	16.990	268	NA	0.0	0.5
Copper	129.000	mg/kg	4.000	38.21	40900	NA	0.5	2.5
Copper	189.000	mg/kg	0.260	18.060	40900	NA	0.0	0.5
Iron	32500.000	mg/kg	2190.000	18037.000	307000	NA	0.0	0.5
Lithium	14.000	mg/kg	0.150	11.550	20400	NA	0.0	0.5
Nickel	44.900	mg/kg	0.250	14.910	20400	NA	0.0	0.5
Strontium	162.000	mg/kg	20.000	48.940	613000	NA	0.0	0.5
Uranium-234	4.700	pCi/g	1.800	2.253	300	1800	0.0	0.5
Uranium-238	4.819	pCi/g	1.460	1.49	351	1600	0.5	2.5
Uranium-238	4.700	pCi/g	1.800	2.000	351	1600	0.0	0.5
Vanadium	168.000	mg/kg	31.000	88.49	7150	433	0.5	2.5
Vanadium	164.000	mg/kg	0.190	45.590	7150	433	0.0	0.5
Zinc	181.000	mg/kg	9.000	139.1	307000	NA	0.5	2.5
Zinc	162.000	mg/kg	9.000	73.760	307000	NA	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Acenaphthene	79.000	ug/kg	51.000	NA	40800000	NA	0.0	0.5
Americium-241	0.437	pCi/g	0.324	0.023	76	1900	0.0	0.5
Anthracene	86.000	ug/kg	74.000	NA	204000000	NA	0.0	0.5
Aroclor-1254	80.000	ug/kg	4.900	NA	12400	371000	0.0	0.5
Arsenic	11.100	mg/kg	5.000	10.090	22	22	0.0	0.5
Barium	616.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Benzo(a)anthracene	230.000	ug/kg	44.000	NA	34900	800000	0.0	0.5
Benzo(a)pyrene	250.000	ug/kg	58.000	NA	3490	25700	0.0	0.5
Benzo(b)fluoranthene	200.000	ug/kg	72.000	NA	34900	1010000	0.0	0.5
Benzo(k)fluoranthene	230.000	ug/kg	77.000	NA	349000	1010000	0.0	0.5
Chromium	37.400	mg/kg	20.000	16.990	268	NA	0.0	0.5
Chrysene	270.000	ug/kg	39.000	NA	3490000	NA	0.0	0.5
Copper	88.400	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Fluoranthene	600.000	ug/kg	44.000	NA	27200000	NA	0.0	0.5
Indeno(1,2,3-cd)pyrene	140.000	ug/kg	50.000	NA	34900	NA	0.0	0.5
Iron	34300.000	mg/kg	2190.000	18037.000	307000	NA	0.0	0.5
Manganese	540.000	mg/kg	158.000	365.080	3480	NA	0.0	0.5
Nickel	45.700	mg/kg	12.000	14.910	20400	NA	0.0	0.5
Plutonium-239/240	6.774	pCi/g	0.324	0.066	#VALUE!	3800	0.0	0.5
Pyrene	540.000	ug/kg	64.000	NA	22100000	NA	0.0	0.5
Selenium	1.540	mg/kg	1.000	1.224	5110	NA	0.0	0.5
Strontium	136.000	mg/kg	20.000	48.940	613000	NA	0.0	0.5
Uranium-235	0.164	pCi/g	0.085	0.094	8	1900	0.0	0.5
Vanadium	137.000	mg/kg	31.000	45.590	7150	433	0.0	0.5
Zinc	109.000	mg/kg	9.000	73.760	307000	NA	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Arsenic	16.400	mg/kg	5.000	13.14	22.2	21.6	0.5	2.5
Barium	536.000	mg/kg	98.000	289.38	26400	NA	0.5	2.5
Copper	130.000	mg/kg	4.000	38.21	40900	NA	0.5	2.5
Lead	27.200	mg/kg	7.000	24.97	1000	25.6	0.5	2.5
Uranium-235	0.177	pCi/g	0.136	0.12	8	1900	0.5	2.5
Vanadium	128.000	mg/kg	31.000	88.49	7150	433	0.5	2.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Barium	548.000	mg/kg	98.000	289.38	26400	NA	0.5	2.5
Copper	91.300	mg/kg	4.000	38.21	40900	NA	0.5	2.5
Napthalene	110.000	ug/kg	5.900	NA	3090000	NA	0.5	2.5
Uranium-234	3.123	pCi/g	2.170	1.49	300	1800	0.5	2.5
Uranium-235	0.247	pCi/g	0.117	0.12	8	1900	0.5	2.5
Uranium-238	3.123	pCi/g	2.170	1.49	351	1600	0.5	2.5
Vanadium	140.000	mg/kg	31.000	88.49	7150	433	0.5	2.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Arsenic	14.800	mg/kg	5.000	10.090	22	22	0.0	0.5
Barium	599.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Benzo(a)anthracene	63.000	ug/kg	44.000	NA	34900	800000	0.0	0.5
Benzo(a)pyrene	59.000	ug/kg	57.000	NA	3490	25700	0.0	0.5
Chromium	48.700	mg/kg	20.000	16.990	268	NA	0.0	0.5
Chrysene	73.000	ug/kg	38.000	NA	3490000	NA	0.0	0.5
Copper	99.700	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Fluoranthene	170.000	ug/kg	44.000	NA	27200000	NA	0.0	0.5
Iron	30700.000	mg/kg	2190.000	18037.000	307000	NA	0.0	0.5
Manganese	438.000	mg/kg	158.000	365.080	3480	NA	0.0	0.5
Nickel	43.300	mg/kg	12.000	14.910	20400	NA	0.0	0.5
Pyrene	130.000	ug/kg	63.000	NA	22100000	NA	0.0	0.5
Strontium	138.000	mg/kg	20.000	48.940	613000	NA	0.0	0.5
Uranium-234	2.869	pCi/g	1.400	2.253	300	1800	0.0	0.5
Uranium-235	0.231	pCi/g	0.134	0.094	8	1900	0.0	0.5
Uranium-238	2.869	pCi/g	1.400	2.000	351	1600	0.0	0.5
Vanadium	123.000	mg/kg	31.000	45.590	7150	433	0.0	0.5
Zinc	104.000	mg/kg	9.000	73.760	307000	NA	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Barium	536.000	mg/kg	98.000	289.38	26400	NA	0.5	2.5
Copper	80.800	mg/kg	4.000	38.21	40900	NA	0.5	2.5
Uranium-234	4.788	pCi/g	1.770	1.49	300	1800	0.5	2.5
Uranium-235	0.146	pCi/g	0.106	0.12	8	1900	0.5	2.5
Uranium-238	4.788	pCi/g	1.770	1.49	351	1600	0.5	2.5
Vanadium	157.000	mg/kg	31.000	88.49	7150	433	0.5	2.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Nitrate	2.500	mg/kg	0.250	NA	1000000	NA	0.5	2.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Acenaphthene	130.000	ug/kg	49.000	NA	40800000	NA	0.0	0.5
Americium-241	0.505	pCi/g	0.395	0.023	76	1900	0.0	0.5
Anthracene	190.000	ug/kg	71.000	NA	204000000	NA	0.0	0.5
Aroclor-1254	27.000	ug/kg	4.700	NA	12400	371000	0.0	0.5
Aroclor-1260	17.000	ug/kg	5.300	NA	12400	NA	0.0	0.5
Arsenic	11.000	mg/kg	5.000	10.090	22	22	0.0	0.5
Barium	581.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Benzo(a)anthracene	490.000	ug/kg	43.000	NA	34900	800000	0.0	0.5
Benzo(a)pyrene	530.000	ug/kg	56.000	NA	3490	25700	0.0	0.5
Benzo(b)fluoranthene	450.000	ug/kg	69.000	NA	34900	1010000	0.0	0.5
Benzo(k)fluoranthene	480.000	ug/kg	75.000	NA	349000	1010000	0.0	0.5
Chromium	42.000	mg/kg	20.000	16.990	268	NA	0.0	0.5
Chrysene	530.000	ug/kg	37.000	NA	3490000	NA	0.0	0.5
Copper	34.400	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Dibenz(a,h)anthracene	160.000	ug/kg	68.000	NA	3490	NA	0.0	0.5
Fluoranthene	1200.000	ug/kg	43.000	NA	27200000	NA	0.0	0.5
Fluorene	98.000	ug/kg	59.000	NA	40800000	NA	0.0	0.5
Indeno(1,2,3-cd)pyrene	350.000	ug/kg	48.000	NA	34900	NA	0.0	0.5
Iron	27800.000	mg/kg	2190.000	18037.000	307000	NA	0.0	0.5
Naphthalene	49.000	ug/kg	46.000	NA	3090000	NA	0.0	0.5
Nickel	34.900	mg/kg	12.000	14.910	20400	NA	0.0	0.5
Plutonium-239/240	7.321	pCi/g	0.395	0.066	#VALUE!	3800	0.0	0.5
Pyrene	1200.000	ug/kg	61.000	NA	22100000	NA	0.0	0.5
Strontium	152.000	mg/kg	20.000	48.940	613000	NA	0.0	0.5
Vanadium	120.000	mg/kg	31.000	45.590	7150	433	0.0	0.5
Zinc	96.400	mg/kg	9.000	73.760	307000	NA	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
2-Methylnaphthalene	150.000	ug/kg	38.000	NA	20400000	NA	0.0	0.5
Acenaphthene	1100.000	ug/kg	49.000	NA	40800000	NA	0.0	0.5
Americium-241	1.291	pCi/g	0.491	0.023	76	1900	0.0	0.5
Anthracene	1200.000	ug/kg	71.000	NA	204000000	NA	0.0	0.5
Aroclor-1254	96.000	ug/kg	4.700	NA	12400	371000	0.0	0.5
Aroclor-1260	49.000	ug/kg	5.300	NA	12400	NA	0.0	0.5
Barium	688.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Benzo(a)anthracene	3100.000	ug/kg	42.000	NA	34900	800000	0.0	0.5
Benzo(a)pyrene	2900.000	ug/kg	55.000	NA	3490	25700	0.0	0.5
Benzo(b)fluoranthene	2600.000	ug/kg	68.000	NA	34900	1010000	0.0	0.5
Benzo(k)fluoranthene	2600.000	ug/kg	74.000	NA	349000	1010000	0.0	0.5
bis(2-Ethylhexyl)phthalate	95.000	ug/kg	76.000	NA	1970000	NA	0.0	0.5
Butylbenzylphthalate	100.000	ug/kg	70.000	NA	147000000	NA	0.0	0.5
Chromium	31.400	mg/kg	20.000	16.990	268	NA	0.0	0.5
Chrysene	3500.000	ug/kg	37.000	NA	3490000	NA	0.0	0.5
Copper	54.900	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Dibenz(a,h)anthracene	620.000	ug/kg	67.000	NA	3490	NA	0.0	0.5
Dibenzofuran	320.000	ug/kg	54.000	NA	2950000	NA	0.0	0.5
Di-n-octylphthalate	61.000	ug/kg	57.000	NA	14700000	NA	0.0	0.5
Fluoranthene	8000.000	ug/kg	85.000	NA	27200000	NA	0.0	0.5
Fluorene	760.000	ug/kg	59.000	NA	40800000	NA	0.0	0.5
Indeno(1,2,3-cd)pyrene	1800.000	ug/kg	48.000	NA	34900	NA	0.0	0.5
Iron	25800.000	mg/kg	2190.000	18037.000	307000	NA	0.0	0.5
Manganese	368.000	mg/kg	158.000	365.080	3480	NA	0.0	0.5
Naphthalene	350.000	ug/kg	46.000	NA	3090000	NA	0.0	0.5
Nickel	34.200	mg/kg	12.000	14.910	20400	NA	0.0	0.5
Plutonium-239/240	13.671	pCi/g	0.491	0.066	#VALUE!	3800	0.0	0.5
Pyrene	7300.000	ug/kg	120.000	NA	22100000	NA	0.0	0.5
Strontium	165.000	mg/kg	20.000	48.940	613000	NA	0.0	0.5
Uranium-234	3.508	pCi/g	1.410	2.253	300	1800	0.0	0.5
Uranium-235	0.293	pCi/g	0.107	0.094	8	1900	0.0	0.5
Uranium-238	3.508	pCi/g	1.410	2.000	351	1600	0.0	0.5
Vanadium	88.400	mg/kg	31.000	45.590	7150	433	0.0	0.5
Zinc	274.000	mg/kg	9.000	73.760	307000	NA	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Barium	760.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Copper	70.700	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Strontium	231.000	mg/kg	20.000	48.940	613000	NA	0.0	0.5
Uranium-234	2.773	pCi/g	1.510	2.253	300	1800	0.0	0.5
Uranium-235	0.234	pCi/g	0.121	0.094	8	1900	0.0	0.5
Uranium-238	2.773	pCi/g	1.510	2.000	351	1600	0.0	0.5
Vanadium	155.000	mg/kg	31.000	45.590	7150	433	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
Anthracene	83.000	ug/kg	60.000	NA	204000000	NA	0.0	0.5
Barium	617.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Benzo(a)anthracene	260.000	ug/kg	42.000	NA	34900	800000	0.0	0.5
Benzo(a)pyrene	310.000	ug/kg	54.000	NA	3490	25700	0.0	0.5
Benzo(b)fluoranthene	210.000	ug/kg	67.000	NA	34900	1010000	0.0	0.5
Benzo(k)fluoranthene	240.000	ug/kg	72.000	NA	349000	1010000	0.0	0.5
Chromium	36.700	mg/kg	20.000	16.990	268	NA	0.0	0.5
Chrysene	330.000	ug/kg	36.000	NA	3490000	NA	0.0	0.5
Copper	99.100	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Dibenz(a,h)anthracene	85.000	ug/kg	66.000	NA	3490	NA	0.0	0.5
Fluoranthene	530.000	ug/kg	42.000	NA	27200000	NA	0.0	0.5
Indeno(1,2,3-cd)pyrene	180.000	ug/kg	47.000	NA	34900	NA	0.0	0.5
Iron	34000.000	mg/kg	2190.000	18037.000	307000	NA	0.0	0.5
Manganese	561.000	mg/kg	158.000	365.080	3480	NA	0.0	0.5
Nickel	37.700	mg/kg	12.000	14.910	20400	NA	0.0	0.5
Pyrene	490.000	ug/kg	60.000	NA	22100000	NA	0.0	0.5
Strontium	170.000	mg/kg	20.000	48.940	613000	NA	0.0	0.5
Uranium-234	3.919	pCi/g	1.710	2.253	300	1800	0.0	0.5
Uranium-235	0.219	pCi/g	0.142	0.094	8	1900	0.0	0.5
Uranium-238	3.919	pCi/g	1.710	2.000	351	1600	0.0	0.5
Vanadium	126.000	mg/kg	31.000	45.590	7150	433	0.0	0.5
Zinc	148.000	mg/kg	9.000	73.760	307000	NA	0.0	0.5

Analyte	Result	Unit	Dl	Bg_2sd	Wrw	Eco_al	Start depth (feet)	End depth (feet)
2-Methylnaphthalene	290.000	ug/kg	36.000	NA	20400000	NA	0.0	0.5
Barium	790.000	mg/kg	98.000	141.260	26400	NA	0.0	0.5
Benzo(a)anthracene	79.000	ug/kg	40.000	NA	34900	800000	0.0	0.5
Chromium	27.100	mg/kg	20.000	16.990	268	NA	0.0	0.5
Copper	98.300	mg/kg	4.000	18.060	40900	NA	0.0	0.5
Iron	28100.000	mg/kg	2190.000	18037.000	307000	NA	0.0	0.5
Naphthalene	60.000	ug/kg	43.000	NA	3090000	NA	0.0	0.5
Nickel	36.300	mg/kg	12.000	14.910	20400	NA	0.0	0.5
Strontium	301.000	mg/kg	20.000	48.940	613000	NA	0.0	0.5
Uranium-234	2.453	pCi/g	1.430	2.253	300	1800	0.0	0.5
Uranium-235	0.172	pCi/g	0.121	0.094	8	1900	0.0	0.5
Uranium-238	2.453	pCi/g	1.430	2.000	351	1600	0.0	0.5
Vanadium	67.500	mg/kg	31.000	45.590	7150	433	0.0	0.5
Zinc	94.100	mg/kg	9.000	73.760	307000	NA	0.0	0.5

KEY

- Greater than WRW Action Level
- Greater than Ecological Action Level
- Detection Less than Action Levels
- Non-detect
- Drains
- Pipes
- Tanks
- Known OPWL Leaks
- UBC
- IHSS
- Paved roads
- Dirt roads
- Streams
- Building: Demolished, Standing

N

Scale = 1: 925

100 0 100 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

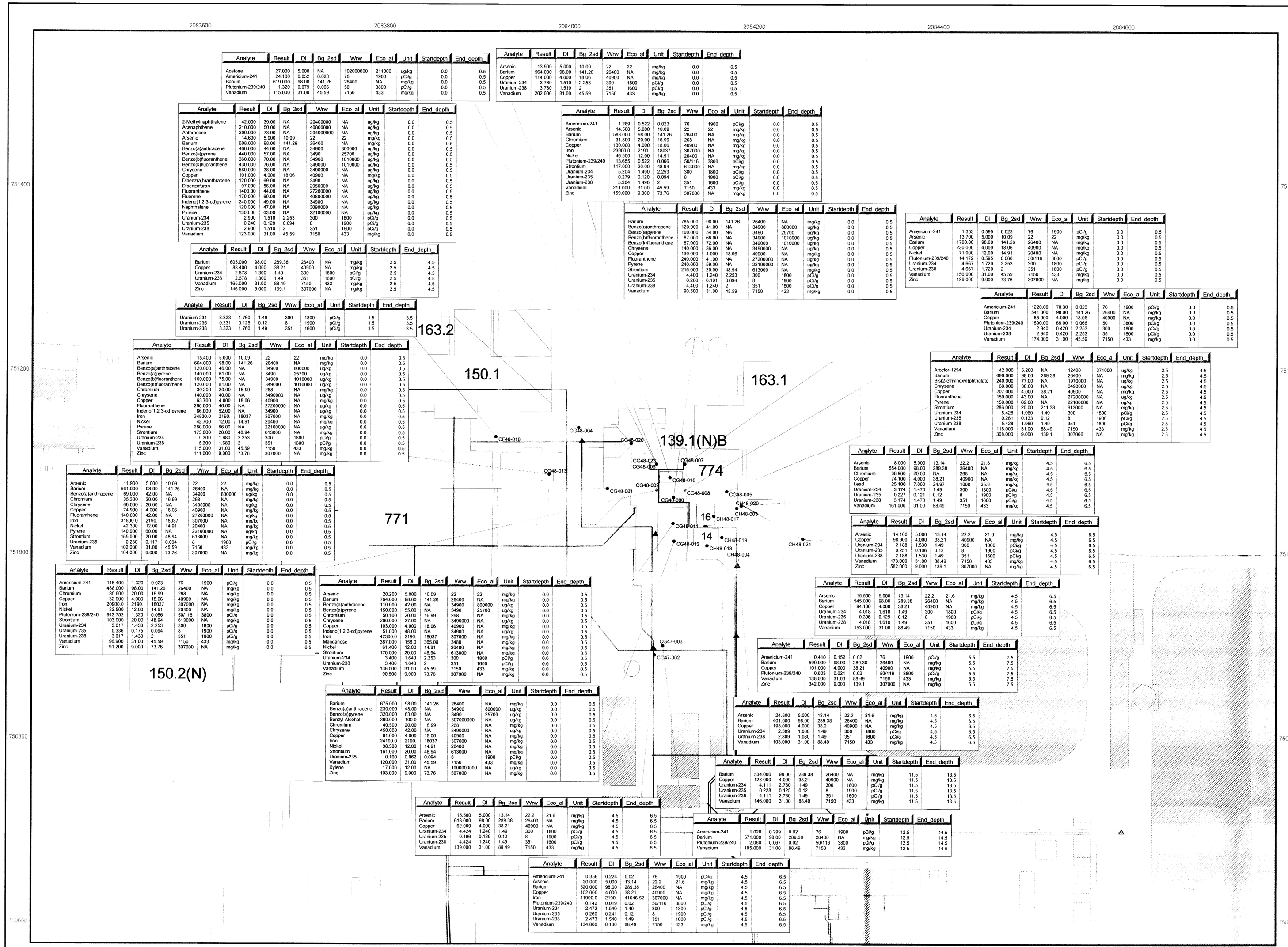
U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: RADMS — Date: 10.14.03

Prepared for: KAISER•HILL COMPANY

File: W://Projects/FY2003/700-4/closeout/
Map redo 9-10-03/700-4dsr_9-10-03.apr

Figure 4
UBC 774 Results
Greater Than Background Means Plus Two Standard Deviations or Method Detection Limits



Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Acetone	27.000	5.000	NA	102000000	211000	ug/kg	0.0	0.5
Americium-241	24.100	0.052	0.023	76	1900	pCi/g	0.0	0.5
Barium	619.000	98.00	141.26	26400	NA	mg/kg	0.0	0.5
Plutonium-239/240	1.320	0.079	0.066	50	3800	pCi/g	0.0	0.5
Vanadium	115.000	31.00	45.59	7150	433	mg/kg	0.0	0.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Arsenic	13.900	5.000	10.09	22	22	mg/kg	0.0	0.5
Barium	564.000	98.00	141.26	26400	NA	mg/kg	0.0	0.5
Copper	114.000	4.000	18.06	40900	NA	mg/kg	0.0	0.5
Uranium-234	3.780	1.510	2.253	300	1800	pCi/g	0.0	0.5
Uranium-238	3.780	1.510	2	351	1600	pCi/g	0.0	0.5
Vanadium	202.000	31.00	45.59	7150	433	mg/kg	0.0	0.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
2-Methylnaphthalene	42.000	39.00	NA	20400000	NA	ug/kg	0.0	0.5
Acenaphthene	210.000	50.00	NA	40800000	NA	ug/kg	0.0	0.5
Anthracene	200.000	73.00	NA	204000000	NA	ug/kg	0.0	0.5
Arsenic	14.600	5.000	10.09	22	22	mg/kg	0.0	0.5
Barium	608.000	98.00	141.26	26400	NA	mg/kg	0.0	0.5
Benzo(a)anthracene	460.000	44.00	NA	34900	800000	ug/kg	0.0	0.5
Benzo(a)pyrene	440.000	57.00	NA	3490	25700	ug/kg	0.0	0.5
Benzo(b)fluoranthene	360.000	70.00	NA	34900	1010000	ug/kg	0.0	0.5
Benzo(k)fluoranthene	430.000	76.00	NA	349000	1010000	ug/kg	0.0	0.5
Chrysene	580.000	38.00	NA	3490000	NA	ug/kg	0.0	0.5
Copper	101.000	4.000	18.06	40900	NA	mg/kg	0.0	0.5
Dibenz(a,h)anthracene	120.000	69.00	NA	3490	NA	ug/kg	0.0	0.5
Dibenzofuran	97.000	56.00	NA	2950000	NA	ug/kg	0.0	0.5
Fluoranthene	1400.00	44.00	NA	27200000	NA	ug/kg	0.0	0.5
Fluorene	170.000	60.00	NA	40800000	NA	ug/kg	0.0	0.5
Indeno(1,2,3-cd)pyrene	240.000	49.00	NA	34900	NA	ug/kg	0.0	0.5
Naphthalene	120.000	47.00	NA	3090000	NA	ug/kg	0.0	0.5
Pyrene	1300.00	63.00	NA	22100000	NA	ug/kg	0.0	0.5
Uranium-234	2.900	1.510	2.253	300	1800	pCi/g	0.0	0.5
Uranium-235	0.240	0.128	0.094	8	1900	pCi/g	0.0	0.5
Uranium-238	2.900	1.510	2	351	1600	pCi/g	0.0	0.5
Vanadium	123.000	31.00	45.59	7150	433	mg/kg	0.0	0.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Americium-241	1.289	0.522	0.023	76	1900	pCi/g	0.0	0.5
Arsenic	14.500	5.000	10.09	22	22	mg/kg	0.0	0.5
Barium	583.000	98.00	141.26	26400	NA	mg/kg	0.0	0.5
Chromium	31.800	20.00	16.99	268	NA	mg/kg	0.0	0.5
Copper	130.000	4.000	18.06	40900	NA	mg/kg	0.0	0.5
Iron	23900.0	2190.	18037	307000	NA	mg/kg	0.0	0.5
Nickel	46.500	12.00	14.91	20400	NA	mg/kg	0.0	0.5
Plutonium-239/240	13.655	0.522	0.066	50/116	3800	pCi/g	0.0	0.5
Strontium	117.000	20.00	48.94	613000	NA	mg/kg	0.0	0.5
Uranium-234	5.204	1.490	2.253	300	1800	pCi/g	0.0	0.5
Uranium-235	0.279	0.120	0.094	8	1900	pCi/g	0.0	0.5
Uranium-238	5.204	1.490	2	351	1600	pCi/g	0.0	0.5
Vanadium	211.000	31.00	45.59	7150	433	mg/kg	0.0	0.5
Zinc	159.000	9.000	73.76	307000	NA	mg/kg	0.0	0.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Barium	785.000	98.00	141.26	26400	NA	mg/kg	0.0	0.5
Benzo(a)anthracene	120.000	41.00	NA	34900	800000	ug/kg	0.0	0.5
Benzo(a)pyrene	100.000	54.00	NA	3490	25700	ug/kg	0.0	0.5
Benzo(b)fluoranthene	87.000	66.00	NA	34900	1010000	ug/kg	0.0	0.5
Benzo(k)fluoranthene	87.000	72.00	NA	349000	1010000	ug/kg	0.0	0.5
Chrysene	140.000	36.00	NA	3490000	NA	ug/kg	0.0	0.5
Copper	139.000	4.000	18.06	40900	NA	mg/kg	0.0	0.5
Fluoranthene	240.000	41.00	NA	27200000	NA	ug/kg	0.0	0.5
Pyrene	240.000	59.00	NA	22100000	NA	ug/kg	0.0	0.5
Strontium	216.000	20.00	48.94	613000	NA	mg/kg	0.0	0.5
Uranium-234	4.400	1.510	2.253	300	1800	pCi/g	0.0	0.5
Uranium-235	0.200	0.101	0.094	8	1900	pCi/g	0.0	0.5
Uranium-238	4.400	1.240	2	351	1600	pCi/g	0.0	0.5
Vanadium	90.500	31.00	45.59	7150	433	mg/kg	0.0	0.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Americium-241	1.353	0.595	0.023	76	1900	pCi/g	0.0	0.5
Arsenic	13.700	5.000	10.09	22	22	mg/kg	0.0	0.5
Barium	1700.00	98.00	141.26	26400	NA	mg/kg	0.0	0.5
Copper	230.000	4.000	18.06	40900	NA	mg/kg	0.0	0.5
Nickel	71.900	12.00	14.91	20400	NA	mg/kg	0.0	0.5
Plutonium-239/240	14.172	0.595	0.066	50/116	3800	pCi/g	0.0	0.5
Uranium-234	4.667	1.720	2.253	300	1800	pCi/g	0.0	0.5
Uranium-238	4.667	1.720	2	351	1600	pCi/g	0.0	0.5
Vanadium	156.000	31.00	45.59	7150	433	mg/kg	0.0	0.5
Zinc	189.000	9.000	73.76	307000	NA	mg/kg	0.0	0.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Americium-241	1220.00	70.30	0.023	76	1900	pCi/g	0.0	0.5
Barium	541.000	98.00	141.26	26400	NA	mg/kg	0.0	0.5
Copper	85.900	4.000	18.06	40900	NA	mg/kg	0.0	0.5
Plutonium-239/240	1690.00	66.00	0.066	50	3800	pCi/g	0.0	0.5
Uranium-234	2.940	0.420	2.253	300	1800	pCi/g	0.0	0.5
Uranium-238	2.940	0.420	2.253	351	1600	pCi/g	0.0	0.5
Vanadium	174.000	31.00	45.59	7150	433	mg/kg	0.0	0.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Aroclor-1254	42.000	5.200	NA	12400	371000	ug/kg	2.5	4.5
Barium	696.000	98.00	289.38	26400	NA	mg/kg	2.5	4.5
Bis(2-ethylhexyl)phthalate	240.000	77.00	NA	1970000	NA	ug/kg	2.5	4.5
Chrysene	69.000	38.00	NA	3490000	NA	ug/kg	2.5	4.5
Copper	207.000	4.000	38.21	40900	NA	mg/kg	2.5	4.5
Fluoranthene	150.000	43.00	NA	27200000	NA	ug/kg	2.5	4.5
Pyrene	150.000	62.00	NA	22100000	NA	ug/kg	2.5	4.5
Strontium	286.000	20.00	211.38	613000	NA	mg/kg	2.5	4.5
Uranium-234	5.428	1.960	1.49	300	1800	pCi/g	2.5	4.5
Uranium-235	0.261	0.133	0.12	8	1900	pCi/g	2.5	4.5
Uranium-238	5.428	1.960	1.49	351	1600	pCi/g	2.5	4.5
Vanadium	118.000	31.00	88.49	7150	433	mg/kg	2.5	4.5
Zinc	308.000	9.000	139.1	307000	NA	mg/kg	2.5	4.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Arsenic	18.000	5.000	13.14	22.2	21.6	mg/kg	4.5	6.5
Barium	554.000	98.00	289.38	26400	NA	mg/kg	4.5	6.5
Chromium	38.900	20.00	NA	268	NA	mg/kg	4.5	6.5
Copper	74.100	4.000	38.21	40900	NA	mg/kg	4.5	6.5
Lead	25.100	7.000	24.97	1000	25.6	mg/kg	4.5	6.5
Uranium-234	3.174	1.470	1.49	300	1800	pCi/g	4.5	6.5
Uranium-235	0.227	0.121	0.12	8	1900	pCi/g	4.5	6.5
Uranium-238	3.174	1.470	1.49	351	1600	pCi/g	4.5	6.5
Vanadium	161.000	31.00	88.49	7150	433	mg/kg	4.5	6.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Arsenic	14.100	5.000	13.14	22.2	21.6	mg/kg	4.5	6.5
Copper	98.900	4.000	38.21	40900	NA	mg/kg	4.5	6.5
Uranium-234	2.188	1.530	1.49	300	1800	pCi/g	4.5	6.5
Uranium-235	0.251	0.106	0.12	8	1900	pCi/g	4.5	6.5
Uranium-238	2.188	1.530	1.49	351	1600	pCi/g	4.5	6.5
Vanadium	173.000	31.00	88.49	7150	433	mg/kg	4.5	6.5
Zinc	582.000	9.000	139.1	307000	NA	mg/kg	4.5	6.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Arsenic	15.500	5.000	13.14	22.2	21.6	mg/kg	4.5	6.5
Barium	545.000	98.00	289.38	26400	NA	mg/kg	4.5	6.5
Copper	94.100	4.000	38.21	40900	NA	mg/kg	4.5	6.5
Uranium-234	4.018	1.610	1.49	300	1800	pCi/g	4.5	6.5
Uranium-235	0.306	0.129	0.12	8	1900	pCi/g	4.5	6.5
Uranium-238	4.018	1.610	1.49	351	1600	pCi/g	4.5	6.5
Vanadium	153.000	31.00	88.49	7150	433	mg/kg	4.5	6.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Americium-241	0.410	0.152	0.02	76	1900	pCi/g	5.5	7.5
Barium	590.000	98.00	289.38	26400	NA	mg/kg	5.5	7.5
Copper	101.000	4.000	38.21	40900	NA	mg/kg	5.5	7.5
Plutonium-239/240	0.603	0.021	0.02	50/116	3800	pCi/g	5.5	7.5
Vanadium	138.000	31.00	88.49	7150	433	mg/kg	5.5	7.5
Zinc	342.000	9.000	139.1	307000	NA	mg/kg	5.5	7.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Arsenic	24.800	5.000	13.14	22.2	21.6	mg/kg	4.5	6.5
Barium	401.000	98.00	289.38	26400	NA	mg/kg	4.5	6.5
Copper	198.000	4.000	38.21	40900	NA	mg/kg	4.5	6.5
Uranium-234	2.309	1.080	1.49	300	1800	pCi/g	4.5	6.5
Uranium-238	2.309	1.080	1.49	351	1600	pCi/g	4.5	6.5
Vanadium	103.000	31.00	88.49	7150	433	mg/kg	4.5	6.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Barium	534.000	98.00	289.38	26400	NA	mg/kg	11.5	13.5
Copper	123.000	4.000	38.21	40900	NA	mg/kg	11.5	13.5
Uranium-234	4.111	2.780	1.49	300	1800	pCi/g	11.5	13.5
Uranium-235	0.228	0.125	0.12	8	1900	pCi/g	11.5	13.5
Uranium-238	4.111	2.780	1.49	351	1600	pCi/g	11.5	13.5
Vanadium	146.000	31.00	88.49	7150	433	mg/kg	11.5	13.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Americium-241	1.020	0.299	0.02	76	1900	pCi/g	12.5	14.5
Barium	571.000	98.00	289.38	26400	NA	mg/kg	12.5	14.5
Plutonium-239/240	2.060	0.067	0.02	50/116	3800	pCi/g	12.5	14.5
Vanadium	105.000	31.00	88.49	7150	433	mg/kg	12.5	14.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Arsenic	11.900	5.000	10.09	22	22	mg/kg	0.0	0.5
Barium	661.000	98.00	141.26	26400	NA	mg/kg	0.0	0.5
Benzo(a)anthracene	69.000	42.00	NA	34900	800000	ug/kg	0.0	0.5
Chromium	35.300	20.00	16.99	268	NA	mg/kg	0.0	0.5
Chrysene	66.000	36.00	NA	3490000	NA	ug/kg	0.0	0.5
Copper	74.900	4.000	18.06	40900	NA	mg/kg	0.0	0.5
Fluoranthene	140.000	42.00	NA	27200000	NA	ug/kg	0.0	0.5
Iron	31800.0	2190.	18037	307000	NA	mg/kg	0.0	0.5
Nickel	42.300	12.00	14.91	20400	NA	mg/kg	0.0	0.5
Pyrene	140.000	60.00	NA	22100000	NA	ug/kg	0.0	0.5
Strontium	165.000	20.00	48.94	613000	NA	mg/kg	0.0	0.5
Uranium-235	0.230	0.117	0.094	8	1900	pCi/g	0.0	0.5
Vanadium	102.000	31.00	45.59	7150	433	mg/kg	0.0	0.5
Zinc	104.000	9.000	73.76	307000	NA	mg/kg	0.0	0.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Americium-241	116.400	1.320	0.073	76	1900	pCi/g	0.0	0.5
Barium	488.000	98.00	141.26	26400	NA	mg/kg	0.0	0.5
Chromium	35.600	20.00	16.99	268	NA	mg/kg	0.0	0.5
Copper	32.900	4.000	18.06	40900	NA	mg/kg	0.0	0.5
Iron	20900.0	2190.	18037	307000	NA	mg/kg	0.0	0.5
Nickel	32.500	12.00	14.91	20400	NA	mg/kg	0.0	0.5
Plutonium-239/240	943.752	1.320	0.066	50/116	3800	pCi/g	0.0	0.5
Strontium	103.000	20.00	48.94	613000	NA	mg/kg	0.0	0.5
Uranium-234	3.017	1.430	2.253	300	1800	pCi/g	0.0	0.5
Uranium-235	0.336	0.175	0.094	8	1900	pCi/g	0.0	0.5
Uranium-238	3.017	1.430	2	351	1600	pCi/g	0.0	0.5
Vanadium	96.900	31.00	45.59	7150	433	mg/kg	0.0	0.5
Zinc	91.200	9.000	73.76	307000	NA	mg/kg	0.0	0.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Arsenic	20.200	5.000	10.09	22	22	mg/kg	0.0	0.5
Barium	764.000	98.00	141.26	26400	NA	mg/kg	0.0	0.5
Benzo(a)anthracene	110.000	42.00	NA	34900	800000	ug/kg	0.0	0.5
Benzo(a)pyrene	150.000	55.00	NA	3490	25700	ug/kg	0.0	0.5
Chromium	50.100	20.00	16.99	268	NA	mg/kg	0.0	0.5
Chrysene	200.000	37.00	NA	3490000	NA	ug/kg	0.0	0.5
Copper	103.000	4.000	18.06	40900	NA	mg/kg	0.0	0.5
Indeno(1,2,3-cd)pyrene	51.000	48.00	NA	34900	NA	ug/kg	0.0	0.5
Iron	42300.0	2190.	18037	307000	NA	mg/kg	0.0	0.5
Manganese	387.000	158.0	365.08	3480	NA	mg/kg	0.0	0.5
Nickel	61.400	12.00	14.91	20400	NA	mg/kg	0.0	0.5
Strontium	170.000	20.00	48.94	613000	NA	mg/kg	0.0	0.5
Uranium-234	3.400	1.640	2.253	300	1800	pCi/g	0.0	0.5
Uranium-238	3.400	1.640	2	351	1600	pCi/g	0.0	0.5
Vanadium	139.000	31.00	45.59	7150	433	mg/kg	0.0	0.5
Zinc	90.500	9.000	73.76	307000	NA	mg/kg	0.0	0.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Barium	675.000	98.00	141.26	26400	NA	mg/kg	0.0	0.5
Benzo(a)anthracene	230.000	48.00	NA	34900	800000	ug/kg	0.0	0.5
Benzo(a)pyrene	320.000	63.00	NA	3490	25700	ug/kg	0.0	0.5
Benzyl Alcohol	360.000	100.0	NA	3070000000	NA	ug/kg	0.0	0.5
Chromium	40.500	20.00	16.99	268	NA	mg/kg	0.0	0.5
Chrysene	450.000	42.00	NA	3490000	NA	ug/kg	0.0	0.5
Copper	81.600	4.000	18.06	40900	NA	mg/kg	0.0	0.5
Iron	24100.0	2190.	18037	307000	NA	mg/kg	0.0	0.5
Nickel	38.300	12.00	14.91	20400	NA	mg/kg	0.0	0.5
Strontium	161.000	20.00	48.94	613000	NA	mg/kg	0.0	0.5
Uranium-235	0.100	0.062	0.094	8	1900	pCi/g	0.0	0.5
Vanadium	120.000	31.00	45.59	7150	433	mg/kg	0.0	0.5
Xylene	17.000	12.00	NA	1000000000	NA	ug/kg	0.0	0.5
Zinc	103.000	9.000	73.76	307000	NA	mg/kg	0.0	0.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Arsenic	15.500	5.000	13.14	22.2	21.6	mg/kg	4.5	6.5
Barium	613.000	98.00	289.38	26400	NA	mg/kg	4.5	6.5
Copper	62.000	4.000	38.21	40900	NA	mg/kg	4.5	6.5
Uranium-234	4.424	1.240	1.49	300	1800	pCi/g	4.5	6.5
Uranium-235	0.196	0.139	0.12	8	1900	pCi/g	4.5	6.5
Uranium-238	4.424	1.240	1.49	351	1600	pCi/g	4.5	6.5
Vanadium	139.000	31.00	88.49	7150	433	mg/kg	4.5	6.5

Analyte	Result	Dl	Bg_2sd	Wrw	Eco_al	Unit	Startdepth	End_depth
Americium-241	0.356	0.224	0.02	76	1900	pCi/g	4.5	6.5
Arsenic	20.000	5.000	13.14	22.2	21.6	mg/kg	4.5	6.5
Barium	520.000	98.00	289.38	26400	NA	mg/kg	4.5	6.5
Copper	102.000	4.000	38.21	40900	NA	mg/kg	4.5	6.5
Iron	41900.0	2190.	41046.52	307000	NA	mg/kg	4.5	6.5
Plutonium 239/240	0.142	0.019	0.02	50/116	3800	pCi/g	4.5	6.5
Uranium-234	2.473	1.540	1.49	300	1800	pCi/g	4.5	6.5
Uranium-235	0.260	0.241	0.12	8	1900	pCi/g	4.5	6.5
Uranium-238	2.473	1.540	1.49	351	1600	pCi/g	4.5	6.5
Vanadium	134.000	0.160	88.49	7150	433	mg/kg	4.5	6.5

KEY

- Greater than WRW Action Level
- Greater than Ecological Action Level
- Detection Less than Action Levels
- Non-detect
- Drains
- Pipes
- Tanks
- Known OPWL Leaks
- UBC
- IHSS
- Paved roads
- Dirt roads
- Streams

Building

- Demolished
- Standing

N

Scale = 1: 600

50 0 50 100 Feet

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: RADMS

Date: 11.10.02

Prepared for: KAISER•HILL COMPANY

File: W:\Projects\Fy2003\700-4\Closeout\
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